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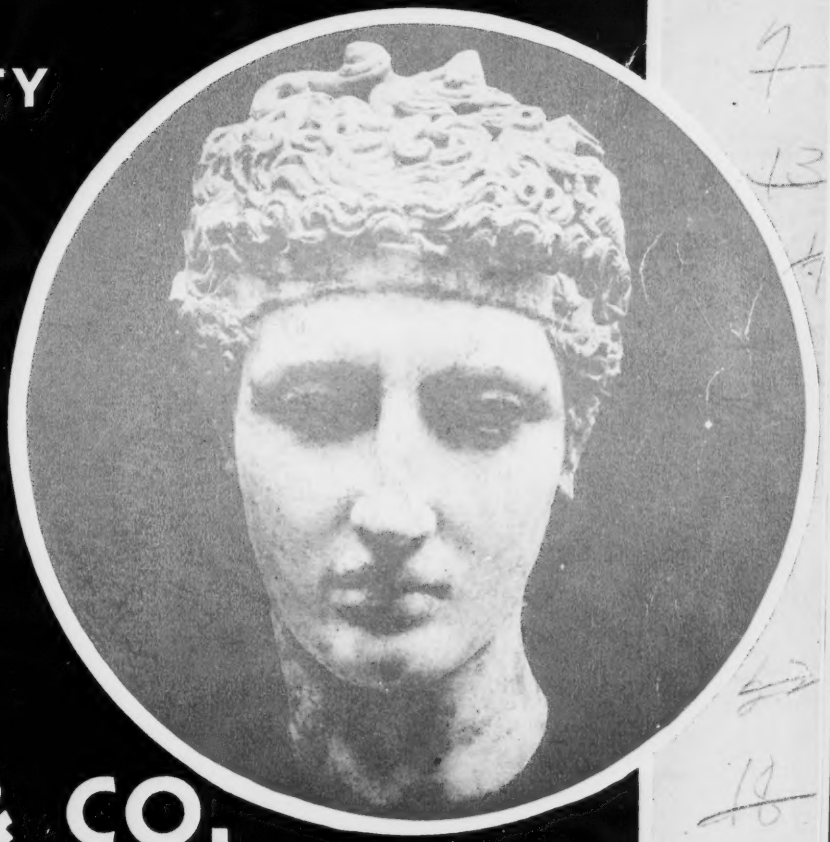
Soap

Enduring QUALITY

FOR sculpture to persist or for excellent perfuming materials to persist—there is found much in common.

Consider . . . careful choice of ingredients, artisans of highest acknowledged talents to fashion them, reputation for honest workmanship, an ideal of perfection to be attained.

Ungerer's perfuming materials for Soapmakers answer to this description. We offer you the full benefit of this priceless asset of ours . . . get Ungerer products and you are getting products of Enduring Quality.



UNGERER & CO.

13-15 West 20th Street NEW YORK

and Sanitary Chemicals

Lilac
Lilantheme
$28.00 lb.
True to the Lilac character, Lilantheme is indispensable as a dominant note for fine extracts and high class toilet preparations.
Lilac R
$12.00 lb.
The Lilac of greatest utility. A warm flowery note, ideal as the basic character for soaps, powders, inexpensive extracts and lotions.
Lilac 3699
$8.00 lb.
A new and excellent Lilac type, for soaps and creams particularly—fresh, flowery and very lasting.
Firmenich + Co., Inc.
135 FIFTH AVE., NEW YORK
CHICAGO OFFICE: 844 NORTH RUSH STREET

Every Dealer for Himself

FULD MAKES IT FOR THE LEADERS
IN BULK
or packaged under PRIVATE LABEL

Fuld dealers "make"-their-own products—prices—Sales. Every Fuld product is identified only by the dealer who sells it.

VITOZONE DEODORANT BLOCKS — *Alone!*

Only Vitozone Processed deodorants give you such perfectly pressure-fused blocks. Only Vitozone gives you extra perfume reserve of Fuld's own exclusive aromatics. Only Vitozone controls the dispersion of perfume from specially processed pure paradichlorobenzene. Vitozone stands alone and stands—and *stands*.

Locking VAPACK WALL UNITS — *Hold!*

Features the 24-ounce Vitozone Deodorant Blocks in decorated individual vaporizing packages with patented tamper-proof bracket that holds the block to the wall and your customer to your filler. A fresh, clean story to boost your large block sales.

Specialized INSECTICIDES FOR EACH *"Ultimate Consumer"*

Built for flies, built for bed bugs, built for roaches—and for moths, ants, mosquitoes, and plant and cattle pests. Fuld insecticides gain preference through scientific specialization thereby permitting effective insect control at minimum cost.

PINE OIL DISINFECTANTS — *Established!*

Our pure Pine Oil Disinfectants have long been distinguished for their absolute uniformity in appearance, strength and performance. The strictest scientific control in manufacture and in the selection of raw materials gives you and your customer positively established coefficients of 3 and 4 F.D.A.

Selling.. Jobbers ..ONLY!

DEODORANT BLOCKS
LIQUID DEODORANTS
LIQUID CLEANERS
LIQUID SOAPS
OIL SOAPS
INSECTICIDES
DISINFECTANTS
SELF POLISHING WAXES
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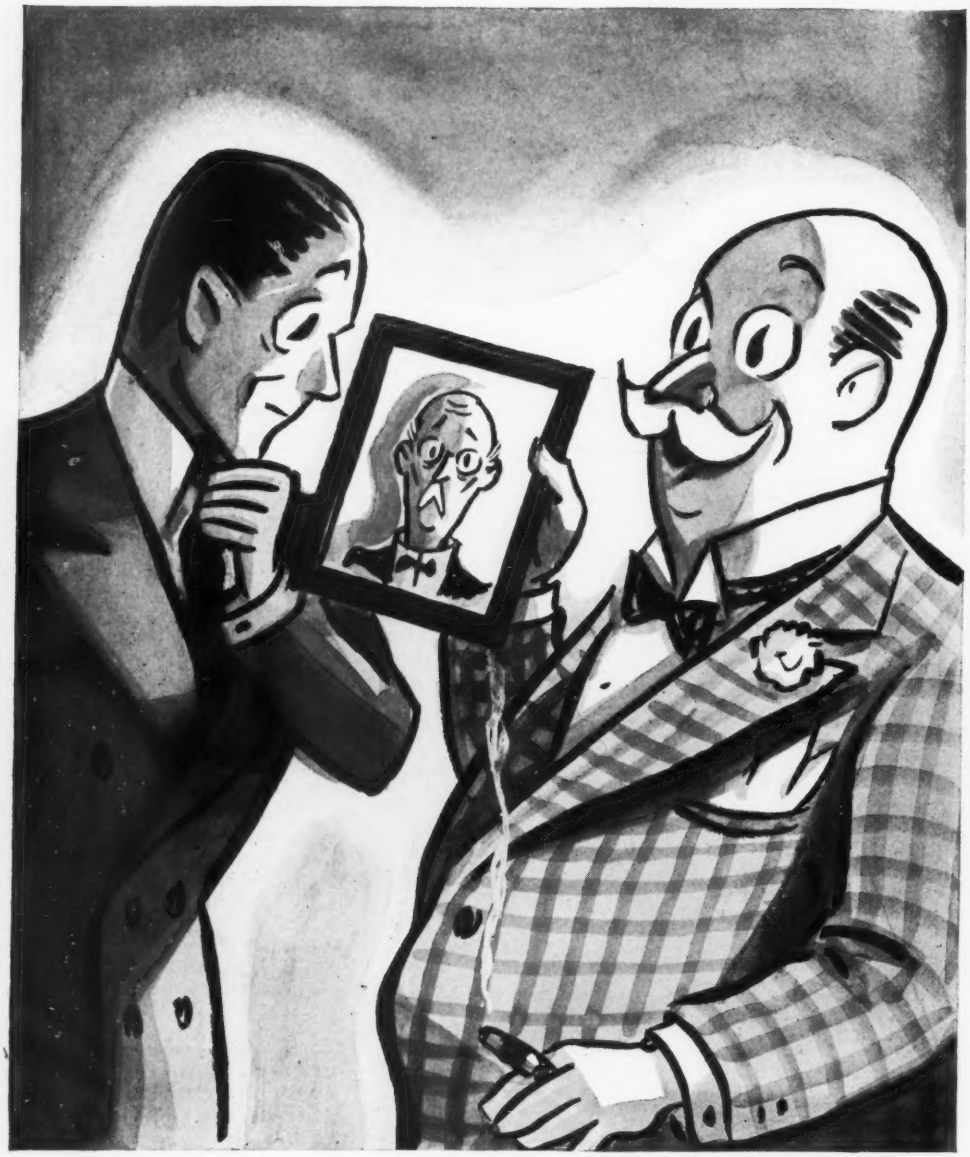
SPECIAL CLEANERS
SOAP DISPENSERS
DEODORANT BLOCK HOLDERS

702-710 SOUTH WOLFE STREET BALTIMORE

FULD BROS.



"I used to worry a lot about production. This is a picture of me taken before we started to use

Niagara Caustic Soda"

P. S. Niagara Caustic Potash and Carbonate of Potash will take a load off your mind, too.

Niagara
ALKALI COMPANY
42nd STREET, NEW YORK, N. Y.

Affiliated with Electro Bleaching Gas Co.
Pioneer Manufacturer of Liquid Chlorine

Soap and Sanitary Chemicals

Volume XIV
Number 5

May
1938

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THE MASTERPIECE

Art, science and experience are prerequisite to success in the specialized field of soap perfumery, too.

The *art* of our master perfumers,

The *science* of our technical staff and research laboratories,

The invaluable *experience* which we have acquired through years of serving the soap industry,

These are the qualifications of

VAN AMERINGEN-HAEBLER, INC.

315 FOURTH AVENUE NEW YORK CITY

TRICONIC SOAPER
Dependable-Attractive-Inexpensive

New Construction

L-E-N-G-T-H-E-N-S LIFE

OF PUSH BUTTON DISPENSERS

TRICONIC

(PATENT PENDING)

THE ONLY MACHINE WITH THE EXCLUSIVE FEATURE OF SELF ADJUSTING METAL TO METAL SEATS. NO WASHERS TO LEAK OR WEAR OUT. MADE FROM GENUINE ZAMAK ALLOY CHROMIUM PLATED.

●

MICHROME GRAVITY VALVE

constructed on same principle as the Triconic. No washers to leak or wear. Also gravity tanks.

MODERNE

PULLMAN

TILTYPE

WRITE FOR DESCRIPTIVE LITERATURE ON COMPLETE LINE OF 23 MODELS

The DUODEK SOAPER

Chromium Plated

A 20 year favorite of leading jobbers . . . A sturdy, graceful, low-priced dispenser having a removable glass globe which is easily kept clean and can be quickly replaced if broken.

CLIFTON CHEMICAL CO.

246 FRONT ST. • NEW YORK

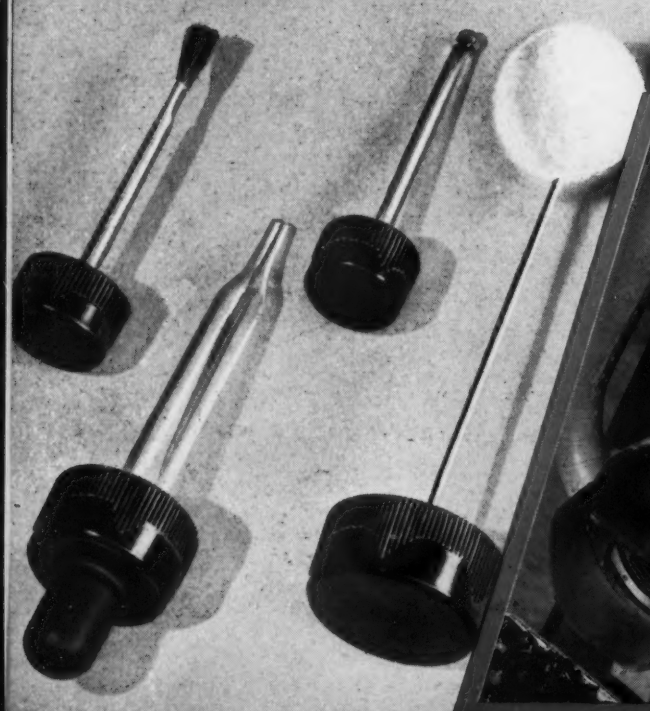
COME TO

ANCHOR HOCKING

FOR YOUR CLOSURE AND GLASS NEEDS

DRESS UP YOUR PACKAGES — Here at Closure Headquarters you will find a complete line of molded caps in a variety of distinctive designs proportioned to harmonize with the most popular types of glass containers. Or private designs, if you prefer. All contain the famous and patented Anchor retaining ledge and recess, as well as a special scientifically designed thread which permits proper clearances and gives a full 360° contact with the glass thread.

LOCKED UP — Only in Anchor Molded Caps you find the famous liner retaining ledge recess. A patented feature, it holds the liner captive, preventing it from falling out in shipment application or from sticking to the container finish on removal. At the same time, it permits the liner to revolve freely, thus preventing any damage to its sealing efficiency.



SHE'S DUSTING — After the liners are inserted keeps in Anchor Molded Caps, these ingenious machines remove every particle of liner dust. Just little detail perhaps, but it shows the care Anch takes to make certain its closures will give perfe satisfaction in every little detail.

2 TO 64— There are sixteen members of this handsome family of Amber "Round Cornered Squares" to fit all requirements from tiny 2 oz. to the gigantic 64 oz. size. Like all Anchor Hocking Glass they're handsome fellows with plenty of gleaming sales appeal.

SALES PEPPER-UPS— Shrewd merchandisers recognize the tonic effect on their sales when Anchor Hocking Premiums are offered . . . and consumers recognize the lovely designs, the fine quality and their worth-more-than-the money appearance. Illustrated are a few pieces from the "Manhattan" line —a pattern that has evoked the praise of foremost designers. Anchor Hocking has scores of other premiums available in sets or individual pieces.

REGULAR GUYS— Don't let the good looks of Anchor Hocking containers fool you. They're no sissys! Anchor Hocking designs are first of all practical . . . able to take the knocks of high-speed production, shipping and handling. Their sparkling, brilliant finish is only equalled by their tough, two-fisted ability to "take it".

WEIGHING IN— Good glass—like good food—requires exact care in measuring the ingredients. Shown here is a section of a weighing room in one of the Anchor Hocking Glass plants where every modern device and method for the production of fine glass—many of them exclusive with Anchor Hocking—may be found.

ANCHOR HOCKING GLASS CORPORATION, LANCASTER, OHIO. CLOSURE DIVISION: LONG ISLAND CITY, NEW YORK, and TORONTO, CANADA

Branch offices in all principal cities

M M & R SOAP NEWS

★ PERFUMING HINTS FOR LIQUID, LAUNDRY AND HAND SOAPS

1

FOR LAUNDRY SOAP

When a substitute perfume oil saves you money that's *not* News . . . but when a substitute saves you money without sacrificing quality—THAT'S NEWS . . . very good news. That's why we recommend—

Perfume Oil 413

An inexpensive substitute for expensive Oil Sassafras Artificial, it has a clean fragrance and imparts a residual odor like that of Safrol. For the most efficient and economical method of using this specialty odor, let us know your requirements.

2

FOR LIQUID SOAP

If you want your liquid soaps to have a clean-cut lift, a little extra sales appeal without increasing production costs, here's a tip on three performance-tested M M & R Perfume Oils—

Manhatta Bouquet—Palma Bouquet—Colonial Bouquet

All three are definitely of the man-type. They're pleasantly agreeable, have definite lasting character and yet are decidedly economical. If your liquid soaps are less than 40% soap, these three odors are available in our water miscible S. T. Aquasol series.

3

FOR HIGH-GRADE HAND SOAPS

M M & R has made a specialty for many years of superior odors for high-grade hand soaps. We recommend—

Springflower Bouquet—Gardenia G. H.—Carnation "N"

Spring Flower Bouquet is a delightfully refreshing odor reminiscent of the fragrance of the first spring flowers. Gardenia G.H. is a superior gardenia and one which holds its remarkable odor. Carnation "N" is excellent for fine white soaps. The fragrance of the carnation odor lasts right to the end of the cake. May we send you testing samples.

FACTS: **M M & R perfuming experts are ready to cooperate with you in giving your soaps more O.P. (odor personality). Call on them and put their specialized knowledge to work on the creation of the right odors for your soaps.**

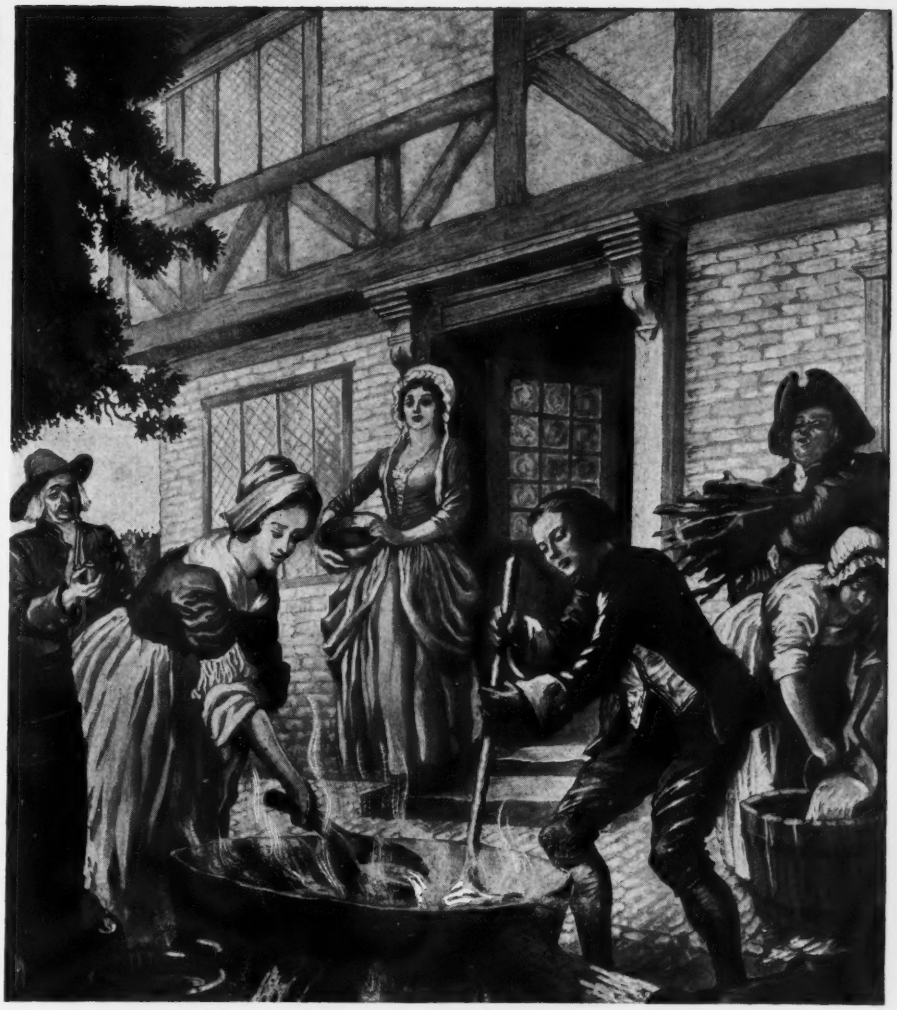
MAGNUS, MABEE & REYNARD, INC.

QUALITY ESSENTIAL OILS, BALSAMS AROMATIC CHEMICALS, ETC... SINCE 1895

32 CLIFF STREET NEW YORK, N. Y.

Through the Centuries with Alkalies

In the American Colonies soap-making was at first largely a household art. The housewife saved the wood-ashes (soda) from the great fireplaces and the grease from the kitchen. By pouring water over the ashes lye was made. The lye and grease were then boiled together until the compound was strong enough to hold up an egg. This strong soft soap was kept in a wooden soap box in the kitchen where it was available alike for Saturday night baths and the family laundry. Later on caustic soda was bought at the grocer's and mixed with hot fat and grease for the home-made soap.



Such resourcefulness and thrift as the Colonial housewife practiced is of vital importance to American business today. In the face of mounting costs and heavy taxation, executives are checking sources of supply with great care and buyers of raw materials are testing quality as never before. As a supplier of Soda Ash, Caustic Soda, Bicarbonate of Soda, Modified Sodas, Calcium Chloride and Liquid Chlorine, serving many major industries, The COLUMBIA ALKALI CORPORATION welcomes this challenge and this responsibility. Its officers and staff pledge themselves anew to deliver the utmost in product, value and service.

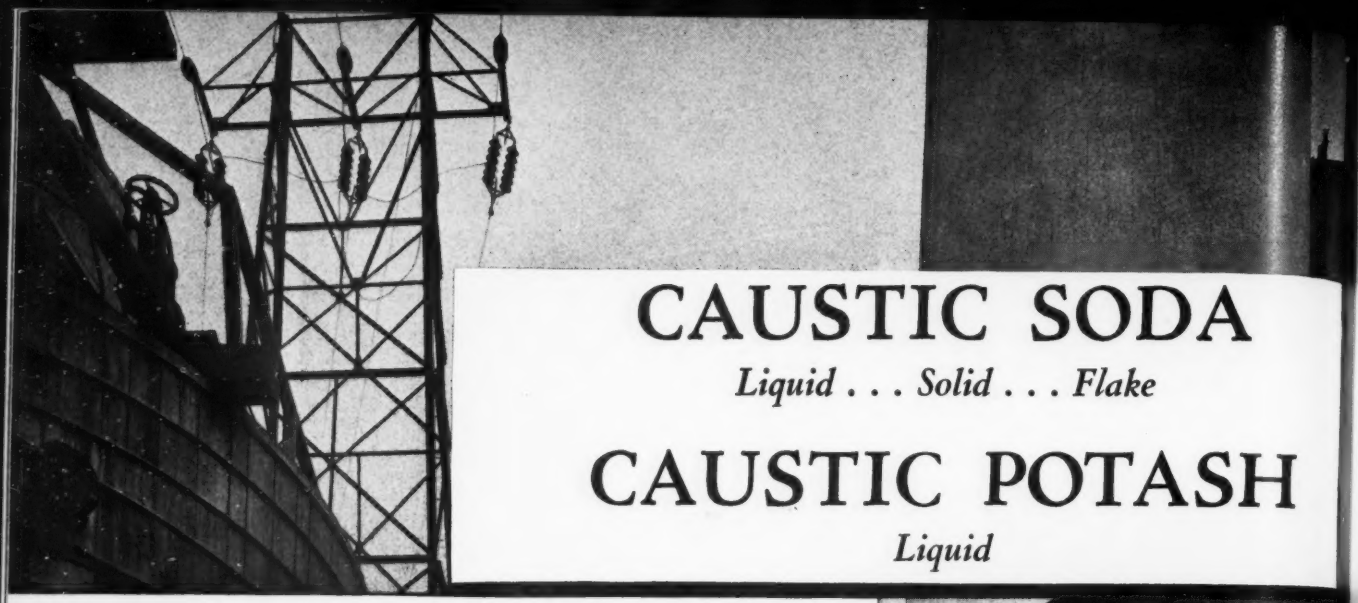
SODA ASH
CAUSTIC SODA
SODIUM BICARBONATE
MODIFIED SODAS
LIQUID CHLORINE
CALCIUM CHLORIDE

COLUMBIA

THE COLUMBIA ALKALI CORPORATION

BARBERTON • OHIO

NEW YORK CHICAGO BOSTON PITTSBURGH
CLEVELAND CINCINNATI ST. LOUIS MINNEAPOLIS



CAUSTIC SODA

Liquid . . . Solid . . . Flake

CAUSTIC POTASH

Liquid

ARBON TETRACHLORIDE

99.995%

"EARLIEST PRODUCTION IN THIS COUNTRY"

TRI-SODIUM PHOSPHATE
DI-SODIUM PHOSPHATE

ALSO MIXED DETERGENTS COMPOUNDED
TO MEET USERS' OWN SPECIFICATIONS

TETRA SODIUM PYRO PHOSPHATE

(Neutral Pyro)

AN OPPORTUNITY TO SUBMIT SAMPLES AND QUOTATIONS IS SOLICITED

WARNER CHEMICAL COMPANY

Pioneer Producers since 1886

STANDARD WARNER CHEMICALS

CHRYSLER BUILDING NEW YORK CITY
155 EAST SUPERIOR STREET, CHICAGO
70 RICKARD STREET, SAN FRANCISCO

DIVISION OF WESTVACO CHLORINE PRODUCTS

THE UNIVERSAL FIXATIVE

A synthetic pure chemical. An alcohol which contrary to other fixatives which are almost exclusively esters, is absolutely stable in the presence of acids and alkali, whereas the esters saponify at higher temperatures.

Arosol is therefore a very good fixative in compounds for cold stirred soap. It is particularly valuable in Eau de Cologne or lemon type odors. It is an excellent solvent for the artificial Musks. Comparative tests against Benzyl Benzoate, Benzyl Alcohol, DiEthyl Phthalate show remarkable results in favor of Arosol. Use about 10% in your regular compound.

For samples and further details, please address us.

NOTE

We recommend the following for use in soaps, fly sprays, deodorants, air purifiers, etc.:

Spice No. 2861	$ .60 per lb.
Lily of the Valley No. 2862	$1.00 per lb.
Lilac No. 2963	$ .65 per lb.
Jasmine No. 2864	$ .60 per lb.
Incense No. 2865	$ .95 per lb.
Rose Geranium No. 2866	$1.10 per lb.
Mimosa No. 2867	$ .55 per lb.

You will be surprised at the values represented by these perfume bases.

Samples on request.

AROMATICS Agfa **DIVISION**

GENERAL DRUG COMPANY

170 VARICK ST. NEW YORK
TRANSPORTATION BLDG., LOS ANGELES, CAL.
1220 W. MADISON ST., CHICAGO, ILL.
907 ELLIOTT ST., WEST. WINDSOR, ONT.

FOR BETTER FABRICATED COMPOUNDS AND SOAP . . .

Standard

ORTHOSILICATE
SUPERSILICATE
METASILICATE
Silicates of Soda

AN EVER-INCREASING MARKET is made available to the manufacturer of fabricated compounds and soaps, due to the adaptability of Standard Silicates in many industries. For instance, in the textile field . . . Standard Silicates offer distinct advantages for the fabrication of:

- *Soap Metasilicate Mixtures for Rayon Boiloff (acetates excepted).*
- *Silicated Soaps for soaping prints, and other finishing processes.*
- *Boiloff Oils and Specialty Soaps for Hosiery.*
- *Kier-Boiling Compounds.*
- *More Efficient Synthetic Detergent Compounds.*

S-3-38

STANDARD SILICATE DIVISION
Diamond Alkali Company
KOPPERS BUILDING • PITTSBURGH, PA.
Plants at CINCINNATI · JERSEY CITY · LOCKPORT, N. Y. · MARSEILLES, ILL.

Distinctly NEW EX-ALK LIQUID CLEANER

FOR FLOORS AND GENERAL PURPOSE CLEANING

Controls Alkalinity

MAKE THESE TESTS

1. Pour about one-half inch of EX-ALK in test bottle. Add Phenol, which in the presence of alkali turns a bright red. Shake up solution. No color is seen.

2. Add an equal amount of water to above. Still no color.

3. Compare other cleaning soaps as in 1 and 2.

4. Pour EX-ALK into a soap solution that shows alkaline. The red color disappears. EX-ALK neutralizes the alkali.

Above tests prove the non-alkaline character of EX-ALK; and indicate how EX-ALK controls the alkalinity of cleaning solution.

EX-ALK is a *cleaner,* built to do a *cleaning* job on all surfaces. It is non-alkaline. Add ¼ pint (4 ounces) of EX-ALK to each 3 gallons of water to make the proper cleaning solution. *EX-ALK controls alkalinitv.*

Plus All These Features

1. Heavy suds produced by EX-ALK, clean with a gentle, thorough action.
2. EX-ALK is free from highpowered "wetting agents" with such great penetration property as to drive dirt into pores and crevices.
3. Economical in use: 4 ounces of EX-ALK to 3 gallons water makes proper scrubbing solution.
4. Harmless to any surface that will stand washing with clear water.
5. Furnished in Pine or Sassafras.

"EX-ALK" *Product of* **THE DAVIES-YOUNG SOAP CO.**

DAYTON, OHIO

A Test Kit will be furnished Free with an order for 1 drum of EX-ALK

Send for FREE SAMPLE and Complete Information

THE DAVIES-YOUNG SOAP CO.
Dayton, Ohio:

Please send sample, prices and other information about EX-ALK Liquid Cleaner.

Name.....

Address.....

City.....

BURGUNDY
a new color . . .
a time-tested pattern
Hazel-Atlas announces Burgundy in sixteen items in the Newport design. Premium users should act quickly to secure the additional premium value of this exclusive, new color. Write at once for samples and further information.
HAZEL-ATLAS GLASS CO.
WHEELING, W VA
See Burgundy featured in Hazel-Atlas Parade of Hits, National Premium Exposition, Palmer House, Chicago, May 2nd to May 6th, inclusive

AQUAROMES

Note the clarity of the water solution of Felton Aquaromes on the left in comparison with an ordinary water soluble perfume oil.

WATER SOLUBLE PERFUME OILS

Completely soluble in water . . . AQUAROMES leave no trace of oil film or cloudiness, and lastingly and economically perfume a large variety of products. Liquid Shampoos! Deodorant Sprays! Theater Sprays! Formaldehyde Sprays! And many others!

You have a large selection of popular fragrances to choose from . . . and a test quickly demonstrates why so many manufacturers are advantageously using AQUAROMES in preference to the usual water soluble perfume oils on the market.

WRITE FOR TESTING SAMPLE!

FELTON Quality

FELTON
CHEMICAL COMPANY, INC.
603 JOHNSON AVE., BROOKLYN, N. Y.

Manufacturers of AROMATIC CHEMICALS, NATURAL DERIVATIVES, PERFUME OILS, ARTIFICIAL FLOWER AND FLAVOR OILS

STOCKS IN PRINCIPAL CITIES

Boston, Mass. 80 Boylston St.
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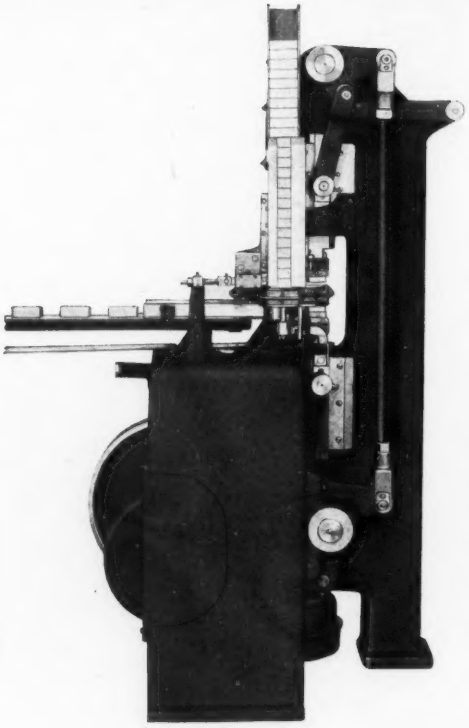
St. Louis, Mo. 4910 W. Pine Blvd.
New Orleans, La. Baltzer Bldg.
Los Angeles, Calif. 4727 W. Washington Blvd.
San Francisco, Calif. 707 Kohl Bldg.

Would You Drive a Car of 1920 Vintage?

Soap presses since that time have been improved as rapidly as automobiles.

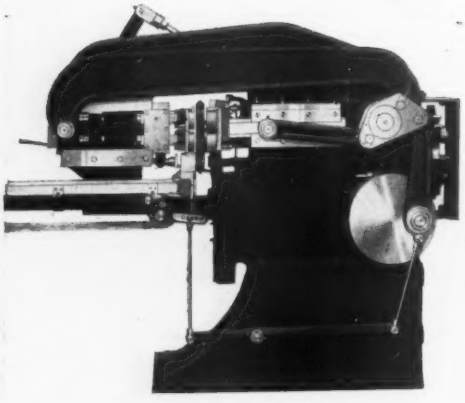
Obsolete, worn-out presses do poor pressing. They quickly destroy expensive dies. They are false economy.

Save money by replacing obsolete machines with



Type ET Toilet Soap Press

JONES TOGGLE OPERATED PRESSES



Type K Laundry Soap Press

. . . perfect pressing at higher speeds . . . no marred cakes . . . finer appearing and more salable soap . . . no noise or vibration . . . and lower operating cost . . . these are all yours when you replace your old presses with the latest type JONES SOAP PRESSES.

R. A. JONES & CO.
Incorporated
P. O. Box 485 Cincinnati, Ohio

The Standardized *Constant Motion Cartoner* packages, bottles, jars, tins, collapsible tubes and many other articles. It feeds, folds and inserts direction sheets and corrugated board liners with the loads.

As the Editor sees it..

REQUIREMENTS of the current edition of the U. S. Pharmacopoeia for soft soap have come under the fire of potash soap manufacturers from time to time recently. The criticism is made that the requirements are not sufficiently specific, so much so that in some instances, they are meaningless. We hear indirectly that some consideration is being given to ironing out these alleged shortcomings in current work of revising the U.S.P. XI. May we respectfully suggest that one or two potash soap experts, men who are actually engaged in the business of manufacturing these products, be called into consultation by the revision committee when they get around to *sapo mollis*. With a product as simple as soft soap, we can hardly see any excuse for requirements which might be at all confusing.

AN interesting slant on the merchandising of soap and other specialties comes to us from a trade in no way connected with these products. When the idea of standardization was agitated before a group of manufacturers, one executive opposed the suggestion vehemently. Because he headed a company of more than ordinary size and success, his words received close attention. He pointed out that the industry is in the business of making and selling highly specialized products, —products which must command higher prices because the sales expense is high, — products which are strictly specialties, with no two firms making exactly the same thing. In such a policy of offering their products as specialties, he argued, lies the protection against the undesirable conditions which would come with standardization,— a sameness of products, concentration of emphasis on price, keener competition, and smaller profit margins.

At the same time, it cannot be overlooked that the absence of standards has always given the quality-cheat and the chiseler just the opportunity which he desires and requires. So, all in all, it would appear that this question of whether to standardize or not is distinctly a two-sided affair, and it is one which the individual manufacturer must answer for himself in the light of his own problems. No sweeping generalities can be made to apply to all firms within any industry.

PUBLISHED formulas are not always what they are cracked up to be. They hold numerous pitfalls for the amateur as many a budding manufacturer has found to his sorrow. Early in the experience of most practical plant men and chemists, they learn not to place too much faith in formulas, especially those which appear in formula books and magazines. But among the inexperienced, a formula irrespective of its origin is still held to be the key to manufacturing success.

Recently to prove that many published formulas are unworkable, a chemist of long experience tried out a number of those which appear in a well-known book on cosmetic manufacture, a book written by a man supposedly with a practical background and with a knowledge of his subject. This chemist found that by following the formulas and directions in this book, he obtained products which were mostly unsatisfactory and unmarketable,—and published the results of his findings. We believe that similar results would also be obtained in other directions by an investigation of this type.

For some years, we have invariably refused to pass out formulas in response to requests, because we feel that a formula alone is not only worthless, but frequently misleading. We uniformly advise the services of a consulting expert. Where we publish formulas as part of technical or manufacturing articles, we publish them for the consideration and discussion of those in the business, — not as a key for some unsuspecting amateur to open the gates and blunder into the field. And those who will undertake to enter

a line of manufacture based on a published formula, deserve the fate which they invite,—and usually obtain.

FROM a mid-west manufacturer of soaps and sanitary products, we have noted a large mailing card quoting cut prices on deodorizing blocks and liquid soaps. Evidently these cards have been sent broadcast, and as a result of this, the damage which they can do to the general levels of prices in the trade is considerable. We could tell this manufacturer an interesting story —but he unquestionably knows it well,—about a firm which used to secure a large volume of business by methods very similar to this. But, sad to relate, the firm evidently did not make any money slashing prices, and ended up where such distributors usually end,—out of the picture.

TELLING the public how to buy its soap appears to be one of the chief indoor sports of the various and sundry "consumer services." These services usually in the form of booklets and bulletins from membership organizations attempt to aid consumers in a more scientific selection of purchases so that they may get better value per dollar. Some of the material published is of a very sketchy character, and if it is backed by really expert laboratory investigations, one would never suspect it.

All of these consumer services have made a stab at telling the public how to buy soap at one time or another. "Made a stab" is used advisedly, because this just about describes what they have done. With only a single exception which we have observed, none of them is worth a hoot as far as giving really usable advice to the average housewife. They go into the subject of excess alkali, excess water, builders, true soap content, etc., all of which is worth nothing when Mrs. Housewife walks into a grocery store, because she would not know a built soap from any other if she saw them side by side. Obviously, she has neither the knowledge nor the facilities to determine the facts for identification.

The latest soap advice to the general public is contained in *Consumers' Guide,* published by the U. S. Department of Agriculture. It is a well-written summary of what soap is and what determines its quality,—and its facts are on the whole quite accurate. But it makes the same mistake as all the others in that it gives facts to the public which said public is not in a position to use. For this reason, the report is of little or no practical value.

We believe that attempts to guide the housewife in purchasing her soaps based on their composition, are mostly wasted effort. Her soap buying for some time to come is going to be based on what the manufacturer tells her,—and on her own practical observations in the use of various products.

RAYMOND MOLEY, formerly of the Washington brain-trust, and now a contributing editor for one of the weekly news magazines, stated last month at a luncheon in New York that much of the current slump has been due to the attitude of resignation and hopelessness of the average business man. In effect, Mr. Moley stated,—we forget his exact words,—business has been sitting by with tears coursing down its cheeks, and feeling very, very sorry for itself, and has done little or nothing to overcome the cause of its troubles.

The mere fact that Moley is a former brain-truster "who never met a payroll",—or almost never,—subjects his really sage advice in this instance to about a ninety per cent discount in the minds of most business executives. But Moley is right. Traveling about among industrial establishments, we see every evidence that he has put his finger right on one of the main causes of a continuation of our present troubles.

Business has been so busy crying,—in between cursing the powers-that-be in Washington,—that it seems to have forgotten completely that there are still plenty of orders kicking around for those who will go out after them. But, if we just sit back and wait in between our periods of misery, we will get nowhere. Basically, economic conditions have not been a whole lot different recently than they were a year ago when things were rolling along in great style. Right now, we might all take Moley's advice to heart,—quit crying and go out after more business. Some firms have been pushing sales activities as hard as ever, but others have quit cold and have taken it out in firing help and cutting expenses,—which policy has been calculated to bring more grief rather than less.

Low Cost SOAP PERFUMES

Varying effects with odor combinations which do not exceed perfuming cost of citronella, discussed

By John Glenn
Birmingham, England

FOR some time, a considerable demand has existed for cheap perfumes suitable for household soaps or bulk toilets which can replace the traditional citronella without showing any marked increase in cost. It is not an exaggeration to say that the odor of citronella is regarded by the average housewife as the natural odor of cheap household soap, a fact which precludes the use of this admittedly convenient material in higher grade toilet soap perfumes. Yet, working on a cost basis equal to that of one pound of citronella per hundred pounds of soap, it is surprising what a variety of acceptable odors can be created, using the large range of cheap synthetics now available. One cannot, of course, hope to obtain fine floral reproductions or truly modern notes, but reasonably sweet and fragrant lasting odors which compare very favorably with more expensive compounds, can be obtained.

There are two lines of approach: (1) to employ a large percentage of a very cheap material, or (2) a smaller proportion of a higher-priced compound. Most of the very cheap substances available, however, — terpineol, geraniol fractions, terpenes, etc. — have comparatively low odor values, and in the end it becomes more economical to use

Testing perfumes in milled soap, —mill and plodder for trying out perfume combinations under practical conditions. Photo Courtesy Du Pont.

smaller quantities of products with greater odor intensity. This introduces a further complication, as it is difficult to secure even dispersion of the perfume compound through the soap when only an ounce or two is added, a difficulty which often arises with soap additives in milled toilet soaps.

A perfume addition, however, of 8 oz. per cwt. of soap enables adequate dispersion to be obtained, and, working on the cost basis already mentioned, a suitable perfume can be compounded without using excessive proportions of weak-odor ingredients as cheapeners or diluents. The formulae following, to the extent of 8 oz. per cwt. of soap, are without any amendment suitable for many purposes in the soap industry, but even at the price limit chosen, there is still scope for individuality, and it is hoped that the soap perfumer will find them helpful, as well as the remarks accompanying them.

An excellent general blender and efficient fixative for cheap perfumes is cedarwood oil. It has been used frequently by the author with very satisfactory results. Terpineol, geraniol terpenes and fractions, etc., are more in the class of diluents than anything, although the first two have some fixative power. A good sample of geraniol terpenes (which should be pale straw color) will have an odor value equal to some soap geraniols, although it is of course not particularly strong.

Cheap substances with either powerful or lasting odors, such as benzyl acetate, diphenyl oxide, phellandrene, etc., all find a useful application, while citronella, lemongrass, sassafras and other cheap natural oils can be employed in judicious quantities to give their characteristic effects. Several cheap substances, such as benzaldehyde and methyl salicylate, are too characteristic to be employed in any quantity, unless their particular odor character is desired.

The more pungent aromatics, predominant in the finished complexes, are best chosen from the low to medium price range, so that 10 per cent can be incorporated in the perfume if necessary, without overstepping the cost limit. It is not worth while to devote the care necessary in blending traces of expensive aldehydes, etc. The base note cannot be expected to be good enough to justify striking top-notes. It is a sheer waste of the perfumer's time, and his efforts will probably not be appreciated. Those who require something more than a "pleasant smell" will not expect to find it in a cheap soap. The formulae, then, should be capable of speedy composition, not requiring carefully measured fractional quantities.

The formulae which follow have been grouped under the heading of their principal ingredient. When the odor happens to fall into a usually accepted category, such as oatmeal, this fact is indicated.

Diphenyl Oxide

This substance, with its penetrating odor of geraniums can be used in large proportions to give a lasting perfume. Cedarwood and benzyl acetate, in combination with geraniol terpenes, are used to finish off its note.

Diphenyl Oxide	50
Cedarwood	20
Benzyl Acetate	15
Geraniol terpenes	15

Curiously enough, the odor of diphenyl oxide has sufficient resemblance to eau de cologne to enable a passable perfume to be blended for household soap which will at least justify this name. Lemongrass oil will supply the citrus note, and costs will allow a little methyl anthranilate and petitgrain to finish off.

Diphenyl Oxide	40
Geraniol Terpenes	10
Cedarwood	20
Methyl Anthranilate	5
Petitgrain	10
Lemongrass	5

Amyl Salicylate

This cheap synthetic, with its powerful cloverylang note, gives an excellent effect with as much aubepine as costs will permit.

Amyl Salicylate	40
Aubepine	10
Benzyl Acetate	10
Terpineol	20
Cedarwood	20

In smaller quantities, without the aubepine, an interesting effect can be produced by blending with *p*-cresyl acetate and phenylethyl acetate.

Amyl salicylate	10
p-cresyl acetate	5
Phenyl ethyl acetate	5
Benzyl acetate	20
Terpineol	20
Cedarwood	20
Citronella	20

It will be noticed that a good proportion of citronella is successfully included in the above formula, which imparts a very clean and refreshing odor to soap, rather akin to the daffodil type.

Methyl Acetophenone

The powerful odor of this compound, which finds useful application in mimosa and hawthorn perfumes, adapts itself admirably to the oatmeal type of odor. It combines very satisfactorily with the equally powerful Cedarleaf oil:

Methyl acetophenone	10
Cedarleaf oil	15
Geraniol terpenes	20
Benzyl acetate	20
Cedarwood oil	30
Phellandrene	5

This formula can be improved considerably from an odor point of view by the addition of aubepine, cutting down the proportions of the first two ingredients to make the necessary cost allowance, but its strength is of course somewhat reduced.

Benzyl Acetate

The rather crude jasmin note of this well known synthetic can easily be adapted for use in cheap soap compounds. The traditional incorporation of 2-3 per cent amyl cinnamic aldehyde is of course possible as a means of improvement, and a really acceptable odor is produced by the further addition of not more than 1 per cent *p*-methyl quinoline, whose smoothing action on the note of benzyl acetate is less well known.

Benzyl acetate	60
Amyl cinnamic aldehyde	3
p-methyl quinoline	1
Geraniol terpenes	20
Cedarwood oil	16

Phellandrene

The chief application of this compound in soap perfumery is as a constituent of pine perfumes. It is

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a difficult matter to get a really lasting inexpensive pine odor into soap, as in this medium, the cheap pine oils fade rapidly. Phellandrene, however, is a useful substance for experiment in combination with by-product juniper berry oil.

Phellandrene	20
Pine oil	20
Juniper berry oil	20
Cedarwood	30
Naphthalene	5
Camphor	5

An interesting point in the above is the inclusion of small proportions of naphthalene and camphor, whose odors fall into the same class as pine, and give a useful effect when not allowed to be obtrusive. Phellandrene is also of use in modifying the top notes of many cheap perfumes. It blends very well for instance with methyl acetophenone and cedarleaf oil.

Perfuming is the last step before cold-made toilet soaps, — or laundry soaps,—are run from the crutcher to the frames,—and the cost must be low.

Phenyl Ethyl Alcohol

The dried rose leaf odor of phenyl ethyl alcohol unfortunately requires a considerable backing from expensive substances such as geranium oil before it can be used with any success in soap rose perfumes. The following formula, however, is an attempt to get an odor which more or less justifies the name "rose" within the agreed cost limits. It is not very satisfactory in soaps possessing a pronounced base odor, but will be found quite acceptable otherwise.

Geraniol terpenes	50
Phenyl ethyl alcohol	19
Benzyl acetate	10
Terpineol	10
Cedarwood	10
Phenylacetaldehyde	1

A good grade of geraniol terpenes will assist materially in the success of the above. Phenylacetaldehyde can not be obtained quite cheaply, and a small addition will be found useful. If the geraniol terpenes can be bought cheaply enough it might be possible to substitute the dimethyl acetal derivative of phenylacetalde-

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The Trend in SOAP BUYING HABITS

An analysis of consumer preferences in the Milwaukee market ... Soap granules and beads continue to gain in popularity at the expense of laundry bar soaps ... "Rinso" registers sales increase ... "Camay" toilet soap gains in popularity ... Scouring cleaners continue to lose ground ... Tooth powders gaining

ONE of the most important trends indicated in the recent 1938 Milwaukee Market Survey* is the continued loss in consumer acceptance of both white and brown bar laundry soaps. The apparent explanation is a shift in consumer buying habits, as soap granules and beads continue again this year to show increased distribution and greater sale. Package flakes this year are holding their own place in the sales line, but have not shared with beads and granules any increased use as a result of the decline in popularity of laundry soap bars.

The steady decline in the use of white laundry soap has been evident in the Milwaukee market over a period of years. Almost nine out of every ten families used white laundry soap ten years ago, as compared with the present figure of 55 per cent. The average family used 5.7 bars per month in 1938 as compared with 6 bars per month for the previous year.

"P & G" is the only white laundry soap in the list to show a gain in popularity this year, being preferred by 59.6 per cent of all users, as compared with 54.3 per cent in 1937. "Crystal White" is still in second place this year, but shows a drop in favor from 25 per cent to 21.4 per cent. "Ivory" stands at 19.8 per cent this year, as compared to 20.7 per cent a year ago.

The survey shows a corresponding decline in popularity of brown laundry soap. This product was used by 63.7 per cent of the reporting families in 1938, a slight drop from the 65.1 per cent who reported using it a year ago. Consumption per family registered a drop from 6.1 bars per month last year to 5.6 bars per family per month this year.

"Fels Naptha" continues to dominate the brown laundry soap market in Greater Milwaukee with a substantial gain of 5 per cent over 1937. "Fels Naptha" has 80.5 per cent of all users, as compared to 75.3 per cent in 1937. "O K" brown laundry soap is still in second place this year, but shows a decline from 17.1 per cent consumer acceptance to 13.1 per cent. "American Family" is again in third place, with a figure of 5.1 per cent as compared with 5.4 per cent a year ago.

The compensating gains for these losses in the laundry soap field have been made chiefly in increased sale of granulated soap and soap beads. Over 15,000 families have been converted to granulated soap or soap bead use in the course of the past year. Where only 66.7 per cent of all families used these products in 1937, the current figure is 74.4 per cent. It is interesting to note also that 35 brands are reported in use this year, as compared with 18 in 1937, indicating that more soap makers are recognizing this trend and attempting to tap this growing market.

"Rinso" has made startling gains in this field since the 1937 survey was compiled. It is now used by 56.1 per cent of Milwaukee housewives, as compared with 44.7 per cent a year ago. This represents an increase of over 23,000 families and moves "Rinso" from second place to the top of the list. "Oxydol" which lead the sales parade a year ago with 53 per cent, has dropped to second place this year, falling off to 45.7 per cent. "Super Suds" in third place, has dropped from 18.4 per cent to 16.4 per cent. "Dreft" appears in the list for the first time this year, occupying fifth position back of "Palmolive Beads." It is used by 6.1 per cent of consumers. Although not, of course, a soap product, it was re-

* Compiled annually by the *Milwaukee Journal*, Milwaukee.

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ported in this group by purchasers and so was included in the survey.

Package soap flakes merely held their position this year, having a reported consumer popularity of 77.2 per cent as compared with 77.1 per cent a year ago. Average per family consumption this past year was 2.6 packages per month as compared with a figure of 2.7 packages per month reported in the previous survey.

Although showing another decline in popularity, "Hanser's" continues to be the number one brand in the package soap flake classification. "Hanser's" this year has 30.1 per cent of all users, as compared to 33.1 per cent in 1937. "Lux," in second place, has 28.9 per cent, the same percentage recorded in 1937. "Chipso" not only held third place but increased its preference from 15.3 per cent last year to 16.6 per cent in 1938. "Ivory," in fourth place, made a substantial gain in popularity in 1938. "Ivory" is now preferred by 14.3 per cent of all users, while last year this brand had 10.9 per cent of all users. This is an increase of over 5,000 families.

WITH a product used as universally as toilet soap in Greater Milwaukee, any change in the number of families using it is primarily due to changes in the population. This year, 188,674 or 99.2 per cent of all families in Greater Milwaukee reported that they used toilet soap.

The total number of brands of toilet soap in use in Greater Milwaukee increased from 61 in 1937 to 73 this year. Five brands dominate the Greater Milwaukee market again this year.

"Lux" continues to hold first place in the brand preference chart with 60,187 or 31.9 per cent of all Greater Milwaukee families who purchase toilet soap. Last year, "Lux" had 61,467 or 32.9 per cent of all users. "Lifebuoy" has risen from third place in 1937 to second place this year, despite the fact that its consumer popularity has dropped slightly. "Lifebuoy" has 20.7 per cent of all users, as compared to 22 per cent last year. "Palmolive" is in third place with 20.3 per cent popularity, compared with 22.4 per cent in 1937.

"Camay" strengthens its hold on fourth place with an increase from 16.0 per cent of all users last year to 18.1 per cent in 1938. This represents an increase of over 4,000 families during the course of one year. "Ivory" soap records practically the same percentage it had last year, 11.8 per cent of all users.

The average consumption of toilet soap was 5.4 bars per family per month for the year ending January 15, 1938. Last year the figure reported was 5.8 bars per month.

SOAP crystals and water softeners are less popular in Greater Milwaukee than they were last year. After remaining at 32.2 per cent consumer use in both 1936 and 1937, the use of this type of product this year fell to 29.2 per cent. All cleansing agents which are combinations of straight soap and other

chemicals are considered in this classification.

Average consumption of soap crystals and water softeners has stayed at 1.8 packages per family per month since 1935 but this year decreased to 1.7 packages per family per month. Greater Milwaukee housewives used a total of 71 brands of soap crystals and water softeners this year.

"Climalene" is the favorite brand in Greater Milwaukee, with 53.7 per cent of all users buying it. This is slightly lower than last year's percentage. "No Name" is in second place and shows a gain from 9.8 per cent of all purchasers in 1937 to 10.1 per cent this year. "Melo" also shows an increase this year, with 5.6 per cent consumer popularity, as compared to 4.3 per cent last year.

During the past ten years washing powder has become a relatively unimportant item in the purchases of Milwaukee housewives. Used by 35.4 per cent of all families in 1927, its consumer acceptance rating dropped to a figure of 7.7 per cent in 1937. The declining tendency continued in 1938 with a further drop to 6.8 per cent. Those families using washing powder consume an average of 1.9 packages per month on the basis of the current tabulation, as compared with 2.1 packages per month last year.

"Gold Dust" continues to be the stand-out seller in this group with a percentage of 73.9 per cent, a slight drop from the 1937 figure of 76.1 per cent. The second place brand, "Magic," has a consumer popularity of only 4.2 per cent, with "Johnson's" and "Star" in third place at 3.3 per cent.

SHOWING a downward trend for the past ten years, package scouring cleansers continued to recede in popularity this year. From a figure of 95.7 per cent in 1934, consumer acceptance dropped to 89.6 per cent in 1937 and to 88.4 per cent this year. Average consumption per family, where used, is currently 2.9 cans per month.

"Kitchen Klenzer" is still the most popular brand, although it shows a decrease in preference from 42 per cent in 1937 to 39.3 per cent in 1938. "Old Dutch" improved its second place ranking with an increase from 26.1 per cent consumer preference last year to 28.2 per cent in 1938. "Gold Dust" strengthened its hold on third place with 9.4 per cent of all purchasers this year, as compared to 8.3 per cent in 1937.

The Milwaukee market for toilet bowl cleansers shows little change this year, with 63.2 per cent of all families in the district using this type product as compared with 65.4 per cent in 1937. Average consumption shows an increase, being 6.8 packages per month as compared with 6.3 packages in the previous year.

"Sani-Flush" moved from second to first place in sales standing this year, registering an increase in consumer popularity from 46.6 per cent to 50.8 per cent. "Bowlene" dropped from 50.2 per cent to 45.7 per cent, falling from first to second place. "Toil-Bien" is again in third place at 2.2 per cent.

Each year finds bottled bleaching fluid a greater favorite among those Milwaukee families whose laundering is done at home. Last year this product had developed to the point where 54.1 per cent of all housewives were numbered among its users. This year a new high record of 60.5 per cent has been achieved, representing in all 115,069 families.

Although the percentage of users has been increasing consistently, the average consumption of bottled bleaching fluid has remained practically constant. Families in the Milwaukee market using the product purchase approximately 1.5 bottles per month.

"Hilex" continues to hold first place among the 52 brands sold with a consumer popularity of 40.6 per cent although showing some loss from last year. "Wonderene," in second place with 14.8 per cent use, shows practically no change. "Novel Wash" has dropped from second to third place,—with a decrease in consumer use from 15.5 per cent last year to 11 per cent this year.

ANOTHER decrease is noted in the use of regular shaving cream this year, with 47.9 per cent of all men using this product, as compared to 48.7 per cent in 1937. Competition from the brushless type of cream and the increased use of electric razors has no doubt been the cause of the steady decline.

After dropping to a low point of 6 tubes or jars annually for the year ending January 15, 1937, the consumption of regular shaving cream moved up to 6.4 tubes or jars per year per man for the following 12-month period.

"Palmolive" not only retained top position this year, but increased its preference from 35.6 per cent to 39.5 per cent of all purchasers. Even though the use of shaving cream dropped, Palmolive recorded an increase of almost 5,000 new users. "Lifebuoy" is again in second place with 24.8 per cent of all users, as compared to 28 per cent last year. "William's" shaving cream, in third place, progressed from 8.1 per cent to 8.7 per cent.

Despite the sizeable increase in the number of electric razor users, brushless shaving cream holds its own in the Greater Milwaukee market this year. This product records exactly the same percentage of consumer use it had in 1937, 18.5 per cent.

Yearly consumption per man by those using this product was 6.1 tubes or jars for the year ending January 15, 1938. This is approximately the same figure recorded in 1937.

"Burma Shave" occupies first place in the chart although decreasing from 26.6 per cent of all users to 22.8 per cent. "Molle" is in second place with a slight increase from 16.2 per cent to 16.4 per cent. "Barbasol," in third place, is the favorite of 15.6 per cent of all brushless shaving cream users.

Tooth paste lost further ground this year to tooth powder.

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A Statement on the Patent Situation in

SULFATED FATTY ALCOHOLS

By Lewis H. Marks

President, American Hyalsol Corp.

IN the January, 1938, issue of "*Soap*" in an article entitled "The Newer Detergents" and dealing with the sulfated fatty alcohols, it was stated: "As yet the validity of none of these patents has been proven and at least some persons consider this validity to be in doubt."

The following statements were also made: "No legal action has been taken for infringement in any case of this kind." . . . "Certainly the *idea* of sulfonating cetyl alcohol and using it in detergent processes is not new."

These statements would seem to imply that the manufacture and sale of sulfated cetyl alcohol or sulfated sperm oil alcohol is outside the valid scope of the sulfated fatty alcohol patents owned by the American Hyalsol Corporation and that there has been no impartial determination that the manufacture of sulfated sperm oil alcohols involves infringements upon these patents.

This, however, is not true, as the fact that sulfated sperm oil alcohols involve an infringement on the sulfated fatty alcohol patents has been determined by the German courts and we believe the same determination will apply to conditions in this country.

On the 30th of March, 1928, H. Th. Bohme A.-G. of Chemnitz, Germany, filed application for Letters Patent in Germany, No. B. 136,719, covering the method of producing sulfuric acid esters of higher unsaturated aliphatic alcohols of 18 carbon atoms, and on the 30th of May, 1931, this company filed divisional application for Letters Patent in Germany, No. B. 150,315, covering the use of the sulfuric acid esters of saturated alcohols corresponding to the fatty acids of 16 to 18 carbon atoms as wetting, cleaning and penetrating means.

These two applications have resulted in the grant of German patents Nos. 640,997 and 659,277, issued respectively, on December 24, 1936, and March 31, 1938. Corresponding rights for the United States and the Dominion of Canada under the above applications have been purchased and assigned to the American Hyalsol Corporation.

When the applications for patents Nos. B. 136,719 and B. 150,315 were allowed and laid open for opposition, these applications were opposed by Flesch-Werke Aktiengesellschaft of Frankfort on the Main, Germany, which company was then producing sulfated alcohols from sperm oil, and in turn a suit was filed by H. Th. Bohme A.-G. against Flesch-Werks Aktiengesellschaft in the Civil Courts of Germany for infringement on the claims of these applications, which procedure is permissible under Section 30 of the German Patent Act which permits suits for infringement to be brought on applications which have been laid open for public inspection while oppositions are pending and prior to the actual grant of the patents. This suit was heard in a Public Session of Civil Court 16a of Supreme Court I, Berlin, Germany (equivalent to a United States District Court), and on September 17, 1932, resulted in a decision against Flesch-Werke Aktiengesellschaft in which Flesch-Werke Aktiengesellschaft was enjoined from

> "Industrially offering for sale, bringing into the trade or utilizing esters made from sulfuric acid and the alcohols corresponding to the fatty and oily acids as dispersing, wetting agents or penetrating media."

and was also sentenced to make an accounting of profits and damage resulting from the infringement to N. Th. Bohme A.-G.

This decision was later appealed by Flesch-Werke Aktiengesellschaft but before the appeal was heard, Flesch-Werke Aktiengesellschaft withdrew the appeal and opposition and made settlement for profits and damages against it.

The application B. 150,315 was then opposed by Dr. Dambacher on behalf of former employees of Flesch-Werke Aktiengesellschaft. In each of these oppositions and in the suit against Flesch-Werke Aktiengesellschaft, prior literature citations referring to laboratory work with cetyl alcohol sulfonate and other prior literature citations were considered by the Court, and it was held that none of these prior references taught the use of sulfuric reaction products of the alcohols of 16 and 18 carbon atoms as washing, dispersion and penetrating media. In a decision rendered November 5, 1937, in the opposition proceedings, it was ordered that a patent be granted on the application B. 150,315 with the following claim:

> "Use of sulfuric acid esters made by reacting sulfuric acid or fuming sulfuric acid with alcohols corresponding to saturated fatty

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Views in Reunion. 1. The country of the island is very rugged. 2. Main street of St. Denis, capital of Reunion. 3. A vetiver planter of Reunion. 4. Reunion has its own "Tobacco Road" in the geranium areas. 5. Setting out the new geranium plantations on a Reunion hillside. 6. A typical geranium still. In Reunion, the still "goes to the geranium" while in Algiers, the geranium comes to the still. 7. Steamers at the wharves of the principal harbor of Reunion, Point des Galettes. All photographs taken by Dr. Guenther on his latest visit to Reunion.

Oil of

REUNION ISLAND is immensely fertile and rich in such products as sugar, coffee, bananas, vanilla, ylang ylang, geranium and vetiver. The money, however, does not circulate freely. It seems to be frozen up in the vaults of St. Denis' wealthy banks. The sugar and rum interests dominate the Island economically and politically. While large dividends are paid to stockholders of powerful concerns, the white peasants in the interior remain in poverty. The worst features of unenlightened, old-fashioned capitalism still prevail on this Island, favored by nature in so many ways. Little is spent on modern improvements and the standard of living among the peasantry has remained as it was two hundred years ago. A "paillote" or simple straw hut is all the landowner offers his sharecropper

Rose Geranium

A survey of Reunion Geranium, its production, the producing areas, and the outlook . . . the third article of a series

By Dr. Ernest Guenther
Fritzsche Brothers, Inc.

or "colon" for living quarters and, like in the American cotton or tobacco belt, a sharecropper draws from advanced funds which he repays with the products he wrests from the rented land.

High up on the great plains the original French population has remained almost purely white, but down in the lowlands, it has intermingled with natives and Asiatic immigrants into all shades from the pure Nordic to black.

Lately the Island has passed through a difficult period. All the recently enacted social laws of Mother France have also been applied to Reunion Island. The forty-hour week, increased wages, all this has been introduced to the Island without modification. An unskilled laborer may now earn 12 to 18 francs a day; a skilled laborer 20 to 40 francs and overtime is extra. Unfortunately, however, this applies mostly to colored native labor and not to the white rural peasantry who as sharecroppers seem to remain in misery forever. In the lowlands,—on the sugar plantations and along the wharves,—labor has become just as high if not higher than in France. Ground is even more expensive, but, fortunately, the soil is richer. One hectare now costs on an average 30,000 francs or $1,000. Political broadcasts from Paris and the preaching of "egalite, liberte and fraternite" to a people, not yet ripe or prepared for such high ideals, has had its unfortunate effects.

The professional agitators reaped their harvest. There were exaggerated demands and strikes, many of which had to be granted because the political administration often sided with the masses. As a result, a native longshoreman now makes 30 to 40 francs a day and for working on Sundays he receives triple pay amounting to 70 and more francs.

Another lamentable feature is that the native laborer does not spend his money on improving his standard of living. He prefers a squalid straw hut to a clean stone house and spends his earnings on rum, the curse of the country. Most of the retail shops are Chinese-owned, and the shrewd Chinaman supplies the rum against the earnings of the ignorant native. Neither does the Chinaman spend his earnings on improvements. Being accustomed to living on an utterly primitive standard, he sends his savings out of the Colony,, perhaps to some bank in China, and Reunion Island is the loser.

Aside from all this, the lately enacted social laws caused something entirely new which the Colony had never before experienced.—the creation of class hatred. Lately there have been troubles and skirmishes. With a few strong-armed policemen order could easily have been restored and maintained. However, all this seems to violate "egalite, liberte and fraternite," the very principles upon which the structure of democracy is based.

Politics and philosophy cast aside, Reunion Island remains one of the most beautiful corners of the world, a paradise offered by Heaven to poor mortals unconscious of the divine gift.

Let us hope that France, with her rare gift of finding solutions out of seemingly hopeless situations, will lead the way to the millennium for which Reunion seems to be destined by Nature.

Production of Geranium

Historical Development: The exact date of the geranium plant's introduction into Reunion is uncertain. It took place approximately fifty years ago. Some of the older inhabitants recall their fathers distilling small quantities of oil but the plant grown at that time was probably of a different variety. It was smaller and gave a lower yield of leaves per acre but a higher yield of oil. The oil was said to be of a more mint-like odor than the one produced today.

Later another plant variety was introduced, very likely from Grasse. The plant of the variety now cultivated in Reunion is larger and the oil sweeter. It is probably a hybrid or is hybridized in Reunion after its introduction. Seedlings do not always come true to their parents and, therefore, propagation is carried out by means of cuttings, all of which confirms the hybrid character of the plant.

Climatic Conditions: Geranium is a very delicate and sensitive plant which grows best in a temperate climate of medium moisture content. Certain sections of Reunion Island are very favorable to the growth of geranium. Temperatures below $+3°$ C. are fatal to the plants. Excessive moisture causes root disease and destroys the plants. Long periods of dryness retard growth and lessen yield of leaves and oil, but dryness is not as deadly as cold weather and long rains.

Best suited are those temperate regions and altitudes where the hygrometric conditions of the atmosphere insure sufficient moisture in the form of dew and sea breezes. The windward coast of Reunion Island exposed to the ample rainfalls of the monsoons, therefore, is less suited to the growing of geranium than the drier, temperate parts of the leeward side. Thus, most geranium plantations are located in the south, southwest and western parts of Reunion Island. Geranium is not very selective in respect to soil, light and fertile soil being most suitable. The volcanic nature of Reunion's soil also is conductive to the growth of this plant.

Geranium seems to grow best in altitudes ranging from 200 up to 2,000 meters. Today, most geranium plantations on the Island are located between 500 and 1,600 meters, around Cilaos and the Plaine des Caffres, up to 2,000 meters. While geranium formerly was grown also in lower regions, it is today being increasingly replaced there by sugar cane. The latter at present is quite remunerative and, besides, offers less risk than the very delicate geranium. Being protected by high custom tariffs, sugar in France today fetches prices three times above the world market levels. Thus, it is crowding out in Reunion not only geranium but also vetiver, vanilla and ylang ylang. As in Cuba, Martinique and Hawaii, sugar is the enemy of all other crops, especially if, as in France, sugar prices are artificially kept high.

Consequently, geranium today is cultivated on Reunion Island in higher altitudes than formerly. It has been pushed up into the timberline, i. e. the demarcation line between privately owned property and government owned wooded lands high on the mountain slopes. Most geranium plantings of Reunion are today at 600 to 1,600 meters and higher.

Reunion Island is divided into two main regions: (1) *Arrondissement "Du Vent,"* i. e. the windward part of the Island which receives the general moist winds from the East with frequent rainfalls. It stretches from St. Denis to the east and south towards St. Pierre, the south point of the Island. The climate on that side of the Island is too damp for geranium. (2) *Arrondissement "Sous le Vent,"* i. e. the leeward side and larger part of the Island. Drier throughout the year and especially during winter, this part is very well suited for geranium.

Main Sections of Geranium Growing: According to importance, these are: Tampon, Plaine des Caffres, St. Leu, St. Joseph, Entre-Deux, St. Louis, and Les Hauts de St. Paul. All these regions are in the south, southeast, southwest and western parts of the Island. The regions producing the best oils are probably Tampon and St. Joseph. All geranium plants originate from plantations, there being no wild growing geranium in sufficient quantity to permit harvesting.

The coastal regions reaching up to 15 to 20 kilometers inland are planted mostly with sugar cane, no geranium plantings being found there. Geranium is planted on innumerable scattered small patches, high up on the slopes, in the crags, canyons and on the plateaus of that extremely rugged volcanic country. There are scarcely any large plantations, just small plots here and there in those upper regions where sugar cane cannot be grown because of lack of roads and impossibility of transporting the bulky material to the sugar factories. Thus, geranium plantings are wedged in between patches of woodland and forests, on those often quite steep hill slopes of the coastal and central mountain chains with exposure toward the sea, in a picturesque setting, high above the Indian Ocean.

Lack of good roads, inaccessibility and difficult transport of plant material all give to the entire Reunion geranium industry its peculiar character, distinguishing it clearly from the geranium oil industry in Algeria, where the plants are grown on large plantations in the Mitidja Plain. In Algeria, good roads permit transport of plant material in large quantities and distillation in centrally located modern steam distillation plants, "co-operatives."

In Reunion, we find the exact opposite. Innumerable small plantings are perched on volcanic hillsides and the oil distilled in many hundreds of small, very primitive direct fire stills, suitably located near the fields, preferably where water is available. In Reunion, the stills move toward the plant material; in Algeria, it is vice versa.

Planting: Slips are cut from May to October (winter months) and immediately planted in the fields.

The ground should be humid as the result of a slight preceding rain. Plant and row distance is about 30 cm. The young plants need sufficient rain. The first cutting may take place after six months but, in case of too dry weather, eight months may be required. According to prevailing humidity or dryness, the plants grow from 20 to 60 cm., in some cases even higher.

The plants are cut by hand with a knife. This is usually done at the moment of blossoming. Some growers cut the entire plant, but as a more modern method the following has been introduced:

Cutting of the plant material is done successively, not all at once. On each plant stock, one stalk (with its leaves) is left so that it may continue the metabolic functions of plant life. If cut entirely, the plant is more liable to perish. One month after cutting, the stumps left on the plant stock develop new small leaves, soon sufficiently large to provide the plant with CO_2 from the atmosphere. At that moment the branch left from the first cutting may be harvested. After two more months the young stalks and leaves are fully developed and, in turn, may be cut, but again one stalk with its leaves is left, and so forth. . . .

Thus, theoretically four harvests are possible each year, but in reality only three are obtained, i. e. two harvests in summer (November to April) and one in winter (May to October) because plant life in winter is retarded. Furthermore, during winter months plant slips are taken from existing plants for replanting which diminishes the plant material available for distillation.

A geranium plantation requires much care and work in order to remain productive for several years. Otherwise, it will not last very long. Manuring and fertilizing, etc. are necessary. Aside from other fertilizers, the distilled and exhausted plant material is used. All dying plants must be pulled out and replaced with cuttings (slips). If planted in old ground which had previously served for geranium, a new planting does not last the normal span of life; it perishes within a very few years and its yield of plant material is inferior. If planted in new ground and well taken care of by replacing dying plants with slips, a planting may last up to ten years, five to ten years being considered an average.

When the planting begins to show signs of declining, young filao trees are planted between the rows of geranium. After three years, during which time some geranium can still be harvested, the filaos have grown to such height that the geranium is crowded out and will perish in their shade. The filaos are then left in the ground for several years, and grow to good-sized trees and form a new cover of top soil (humus). Subsequently the filaos are cut and sold as firewood. Instead of filaos, acacia may be grown, but since the latter grows very rapidly it is not possible to continue growing geranium under acacia trees for three years (as in the case of filaos). The geranium beneath the acacia is soon crowded out and suffocated.

CUTTING SOAP COSTS!

Reducing fat and oil costs in the soap plant by effective bleaching of lower grade fats . . . a practical and authoritative discussion of "Bleaching in the Soap Plant" in the next issue of *Soap* by C. R. Kemp, co-author of "Modern Soap Making."

After the filao or acacia trees have been cut, sugar cane is grown in the ground for ten years and afterwards geranium may be grown again. This is one of the more modern and efficient methods of crop rotation because geranium and sugar cane, in conjuction with filaos or acacia, supplement one another very well. They do not extract the same chemical principles from the soil; in fact, they rebuild the soil. Unfortunately, this method is possible only in the lower altitudes where sugar can be grown economically. In the higher altitudes geranium is replanted right after filaos or acacia, but in that case the new geranium plantation will have a correspondingly shorter span of life.

Harvest: As already mentioned, there are two main seasons for geranium harvest:—the more important summer crop from November to April (especially from January to March) and the less important winter crop from May to October (particularly August and September). During the latter period the plants are smaller and the fields give less plants and, therefore, less oil. However, distillation goes on also between these main seasons, in fact, all year round, but on a much smaller scale.

The harvest starts when the plants begin to bloom. The cut material should be distilled immediately and, since most of the plants of one field bloom at about the same time, much geranium is available. In order to avoid losses, distillation in the small stills must go on day and night.

Aside from dryness, which retards growth and diminishes yield without being destructive to plant life, and excessive rains which are fatal (root-rot), the plantings are exposed to the danger of cyclone. These cyclones do not strike yearly; they usually arrive in successive years, with a few quiet years following. The cyclone season is from January to March. A cyclone might completely destroy parts of fields or entire fields, or only the existing crop, parts of regions or entire regions. Their extent cannot be predicted or estimated. If they strike early in the season, most of the geranium crop in the fields may be destroyed; if later, a good part of the crop or the bulk of the crop may already have been cut and distilled. The later a cyclone arrives, the less damage it does to the existing crop.

The cyclone might still do a great deal of damage to the plantation proper, even after the harvest. Sometimes, cyclones are preceded or succeeded by very hot, drying winds which are destructive to the existing

crop. If followed by short, though heavy rains, they might do less damage because the plants are given a chance to recuperate. A cyclone might be so severe that afterwards it would be difficult to find enough slips to start new plantings. All these factors make production of geranium oil a very hazardous business.

Total Production of Oil: While production of oil in good years might amount to 120 tons, it can fall as low as 30 tons after a devastating cyclone. During the last few years the following quantities of geranium oil were exported from Reunion:

1934	98.5 tons
1935	73.4 tons
1936	88.8 tons
1937	107 tons

This high production is the result of normal weather covering a period of years, no serious cyclone having struck the Island for some time.

Distillation of Oil: We have seen that, because of extreme ruggedness of the volcanic mountains, only small patches of plantings are possible. Since there are few roads, no transport of plant material to central distilleries is possible.

Distillation is carried out, therefore, not in steam distillation plants, but in many hundreds of small and rather primitive direct fire stills mostly made of copper. Where abundant plant material and running water are available, several stills may be operated. According to Internal Revenue figures, there are in Reunion 2,000 essential oil stills, 300 of which serve for distillation of vetiver, the balance for geranium. It is impossible to estimate how many of these stills are in operation at present, but very likely most of them are working because their owners do not claim tax exemption.

While traveling through the villages of Reunion's geranium regions, one frequently notices on the roadside a central water tank made of metal, from which the villagers draw their water supply. They collect it in tin cans and, like Chinese coolies, carry these cans on a pole across their shoulders, often for quite some distance.

The geranium distillers, too, in many regions are confronted with lack of running water. It is easier to transport a limited amount of water to stills than large quantities of bulky plant material. Therefore, the stills are placed near the fields although there is sometimes no running water available.

The stills are set up above a walled-in fire hearth. Wood cut from the nearby mountain forests serves for heating. Distilled and exhausted plant material is not used as fuel; it is employed exclusively for fertilizing the geranium fields, especially the older ones. Stills of several sizes are in use, holding 200, 250 and 450 kilos of plant material. The average still measures one meter in diameter, one and one-half meters in height including the fire hearth.

The 250-kilo type still has been found most practical because one man can operate it (charging and discharging). It is also more economical in regard to consumption of fuel. Larger stills have proved impractical because they are more difficult to move. The smaller stills are preferred, as they can be transported more easily from one field to another when the crop of one plantation has been cut and distilled. The principle is always to move the stills toward the supply of plant material.

The stills are usually set up beneath a palm-leaf shelter, if possible on a slope, to permit easier charging and discharging of plant material. This also makes the fire hole more accessible and facilitates the flow of distillation water and oil from the Florentine flask into the receiver.

In places where no flowing water or no water at all is available, working conditions are more difficult. The distiller must improvise his water supply by storing reserve water in one or two drums. The following procedure is then applied:

Plants are charged and tramped into the still, the lower part of which contains a false wooden bottom to prevent contact of plant material with the hot still bottom directly above the fire. The lower part of the still up to about one foot above the false bottom is filled with water. After the plant material is charged the still-head is clamped down, the gooseneck set up and all joints tightened with a kind of paste made of mud, water and dried, crushed plant material. This paste prevents steam from escaping through the joints because it hardens with the heat developing during distillation. The oil distills over easily and collects in a primitive Florentine flask; an old sardine can often lies across the outflow of the condenser to enable the distiller to watch the oil flow.

If there is no running water, all the water distilled over (distillation water) is collected into a drum. This is done simply by letting it flow from the Florentine flask into an old gasoline can, from which it is emptied into a drum. There the water cools slightly. The stationary cooling water in the condenser tank becomes increasingly hot as distillation proceeds. The distiller, in order to prevent too hot a flow of the distillate, draws some of the hot water from the condenser tank and replaces it with colder water from his reserve drum.

Distillation of one charge lasts one and one-half hours, when all the oil is distilled over. By that time the cooling water in the condenser tank has become quite hot, especially the upper layer.

The exhausted plant material is removed with a pitchfork. Of course, most of the water in the bottom of the still has been distilled over and the residue is of dark color and undoubtedly contains much resinous matter, polymerized and empyreumatic compounds which should be discharged before commencing the next distillation. Because of lack of water, however, the distillers frequently leave the residual water in the still and replace the evaporated (distilled-over) water with some hot water taken from the upper layer of the condenser tank. This procedure saves fuel because the water needs only to be heated from about 70° C. to 100° C., boiling point.

(*Turn to Page* 73)

What Happened to

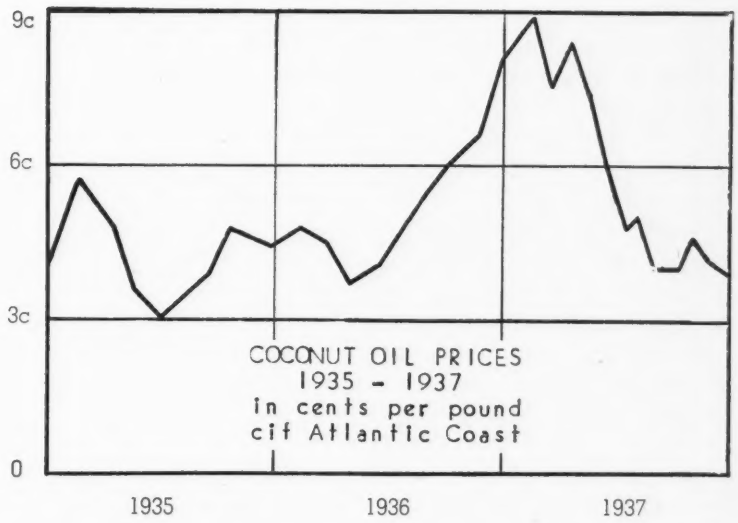
COCONUT OIL

in 1937—and Why?

ONCE more the coconut oil market has been through its old familiar cycle,—this time within the short space of two years, jumping from the depths to a price peak then tumbling down again. From a low point in the neighborhood of three and a half cents per pound in 1936, quotations on Philippine coconut oil skyrocketed to a level of nine cents early in 1937 for Atlantic Coast delivery. Since then the decline has been precipitate and continuous. At the close of the year coconut oil values were right back where they were two years before.

The reasons for the decline are analyzed in a report just released by Leo Schnurmacher, Inc., Manila, P. I., coconut oil brokers. They point out that at the beginning of 1937 an abnormally low production of copra was responsible for a continuation of the rapid advance of copra and coconut oil prices. This advance proceeded so far that it pulled coconut oil out of line with the rest of the world oil and fat output. The result was a steady flow of offers of competing oils, such as palm kernel, cottonseed, etc., which took the market away from coconut oil throughout the early months of 1937.

Once more the world producers of oils and fats made the same fatal mistake of overproducing under the stimulus of high and profitable prices. Increased planting of oilseeds of all kinds was the rule in 1937 throughout the world. United States produced a record cottonseed crop under this stimulus,—a fair sample of the trend in oil and fat output in all producing centers.



During the second half of 1937—when it was already becoming apparent that producers had let their enthusiasm run too far, the Philippines came in with a sharp increase in copra production, much larger than sufficient to offset the shortage during the first half of the year.

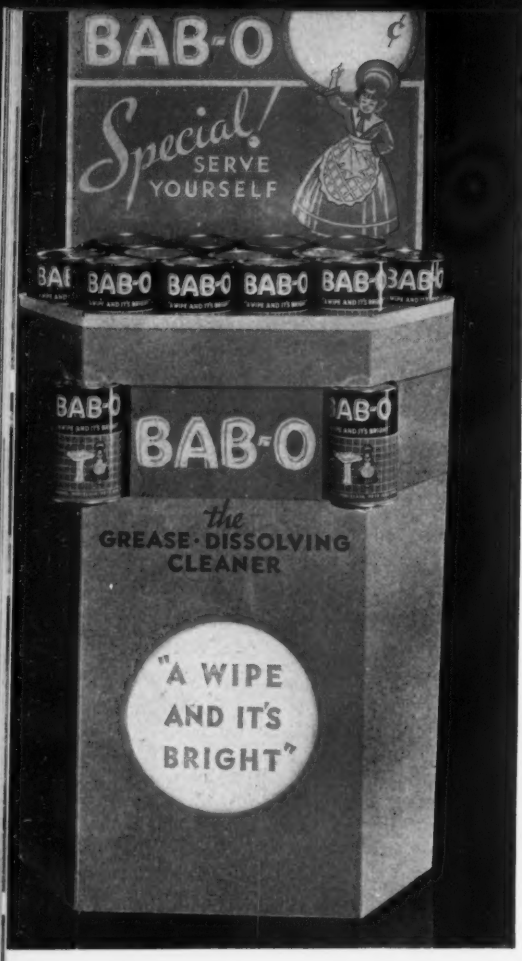
If any additional factors were necessary to undermine the price of coconut and other oils, they were supplied by the recession which hit the United States severely in the third quarter of 1937. Political and legislative uncertainty combined with decreased business activity to affect all commodity markets adversely. These factors, added to the overabundant supply of foreign and domestic fats, explain the present low level to which coconut oil prices have fallen.

According to the recent Schnurmacher report, the 1937 Philippine crop of copra totaled 706,678 metric tons, an increase over the 1936 figure of 688,506 metric tons,—and this in spite of the fact that production was far below normal in the first half of the year. The bulk of the Philippine crop came on the market late in the year when overproduction was already too evident.

World Production of Copra

	Metric Tons
Netherlands Indies (1936)	825,848
Philippines (1937)	706,678
British India (1936)	599,856
Ceylon (1936)	292,117
Malaya (1936)	273,945
Other world production. (Yearly average)	581,245
Total	3,279,689

New Products

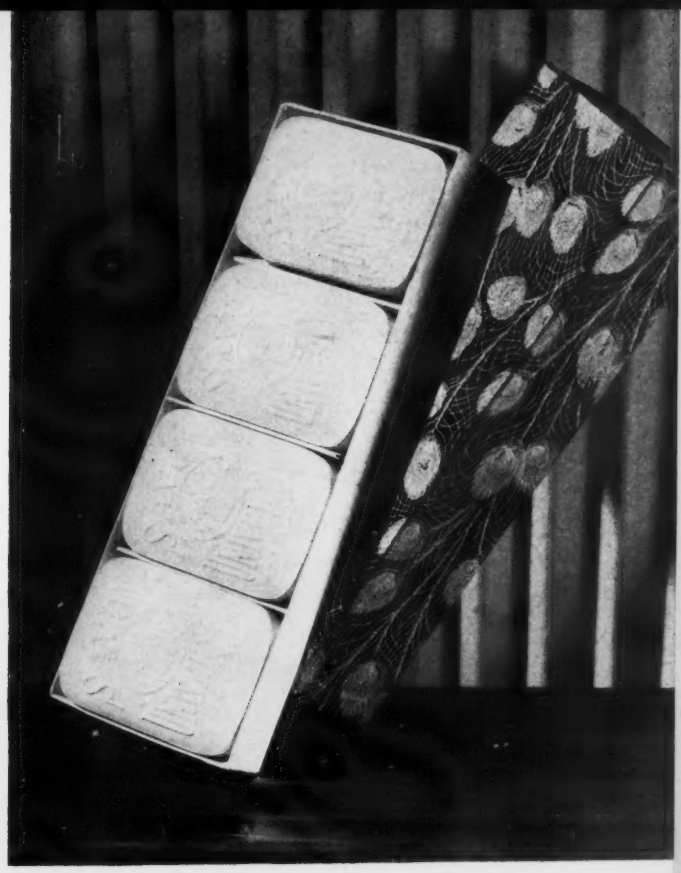


B. T. Babbitt, Inc., New York, is using a new floor display stand for the marketing of "Bab-O." The new unit, decorated in red and green, was designed by Robert Gair Co., New York.

Above—Janitors Supply House, Baltimore, has recently put on the market a new window and glass cleaner in the two sizes shown. Bottle sprayer by Federal Tool.

Shell's three new specialties, — "Shell Glass Kleanzit," "Shell No-Rubbing Floor Wax" and "Shell Furniture Polish" are shown here with some older members of the Shell line, latter recently restyled.

and Packages



Geo. A. Schmidt Co., Chicago, has recently added to its private brand line "Savon Universal." The new soap is attractively packaged, four cakes to the box. In a bouquet odor.

Left—Bath salts by Maison Jeurelle of New York packed in a white Platonite flower pot by Hazel-Atlas. This novel package, particularly appropriate for the Easter trade, has the advantage of subsequent added utility.

The new specialty line of Geo. H. Nowland Co., Cincinnati, for the 5 and 10 chains comprises seven items, three of which are shown above. Currently being featured throughout the country.

TURNER

CAUSTIC POTASH

CARBONATE OF POTASH

CAUSTIC SODA

CHLORIDE OF POTASH

RED OIL

PETROLATUM **WHITE OILS**

INSECTI-SOL

(Colorless, odorless insecticide base)

Refined by Pennsylvania Refining Co., Butler, Penna.

For 75 years, the House of Turner has been serving users of chemicals.

JOSEPH TURNER & COMPANY

RIDGEFIELD, N. J.

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40TH ST. & CALUMET
CHICAGO

News....

In Los Angeles Soap Post

J. T. McKinney has been named director of sales promotion for Los Angeles Soap Co., Los Angeles.

George F. Dodge Dies

George F. Dodge of the Windsor Soap Co., Buffalo, N. Y., died recently of a heart ailment at the age of sixty-nine.

P&G Names Conwell

G. A. Conwell has been named district manager of the San Francisco division of Procter & Gamble Distributing Co., succeeding Paul Parrette, who was recently made sales manager for entire Pacific Coast area.

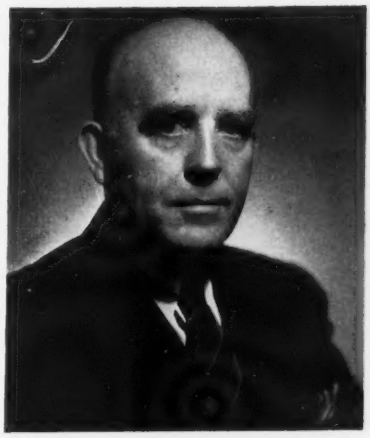
Sponsor "Temu" Soap Program

Max Wulfsohn, Inc., New York importing firm, is sponsoring a twice-a-week series of radio programs over WJZ of the National Broadcasting Co., introducing "Temu" soap, a new imported toilet soap.

E. H. Little to Head C-P-P

E. H. Little, who has served as vice-president in charge of sales and advertising of Colgate-Palmolive-Peet Co., Jersey City, N. J., since 1933, was elected president late last month. The action was taken by the directors immediately following the annual stockholders' meeting. S. Bayard Colgate was re-elected chairman of the board, having assumed that office in addition to that of president, upon the resignation as chairman of Charles S. Pearce last summer.

E. H. Little went to work for the old Colgate company in 1902. He began as a salesman in the territories of North and South Carolina. In 1906 he was made district sales manager, with headquarters at Memphis, Tenn. Ill health interrupted this phase of his career, and it was not until 1914 that he was able to resume his work. Upon his recovery in 1914, he joined the old Palmolive



E. H. Little

company as district sales manager in charge of Pacific Coast operations, with headquarters in Los Angeles. Under his managership, the Palmolive company's sales in this territory rose to the highest per capita figure in the United States. As a result he was made divisional manager in 1919, and was assigned to re-organize the sales division in the east. In 1924 he was made assistant general sales manager in charge of national distribution. When the Palmolive company was merged in March, 1933, forming Colgate-Palmolive-Peet Co., Mr. Little was named export manager and elected a vice-president, heading the sales and advertising division.

At the meeting of the stockholders, in addition to the election of Mr. Little, approval was given to a profit incentive plan.

Keller Back from Europe

Gert Keller, general manager of Schimmel & Co., New York, recently returned from a 3-months' trip to Italy, France, Germany and England.

Modify Toilet Goods Tax

The U. S. Senate has recently passed a measure which if approved by the House and signed by the President will eliminate the 10 per cent federal excise tax on toilet soaps, shampoos, toilet preparations etc. selling at nine cents or less per unit. The measure, which was introduced as an amendment to the tax bill, was offered by Senator Joseph F. Guffey. It was adopted by the Senate without debate and without a record vote. It would go into effect June 30, 1938. Opposition to the measure was voiced by Senator Copeland of New York who urged substitution of a general reduction in the excise tax rate to 5 per cent.

New Rayon Lubricator

Laurel Soap Mfg. Co., Philadelphia, has developed a new soluble rayon coning oil, known as "Laurel Ruxite RO," which it is claimed will prevent split filaments and breaks, and give greater pliability. The new product is said to emulsify readily in water, wash out entirely in the scouring process, and not become discolored on standing.

Introduce New "Gunk" Cleaner

Curran Chemical Corp., Malden, Mass., has recently developed a new "Gunk" product, known as "Gunk Compound M-F" for use as a degreasing agent and cleaner for the insides of motor blocks. The product is said to wash away all carbonaceous tars as well as gums and sludge.

Will Head British Delegation

Lord Leverhulme, governor of Lever Bros. and Unilever, Ltd., and president of the British Society of Chemical Industry, will head the British delegation to the International Chemical Convention to be held at Ottawa, Ont., Canada, June 20 to 22.

C-P-P 1937 Earnings Lower

The annual report to stockholders for 1937 as submitted by President S. Bayard Colgate showed net profits of Colgate-Palmolive-Peet Co., Jersey City, N. J., to be $782,250. This compares with a net profit of $4,218,954 for 1936. "The outlook for 1938 is difficult to predict," Mr. Colgate stated. "Dealers' stocks of our goods at the first of the year were generally low and current business represents largely consumer demand. On the other hand, a continuance of large promotional expenditures on new products will continue to absorb a substantial part of the profits until volume on these brands can be brought up to a paying basis. The foreign business of the company has been on a very satisfactory basis."

Net profits were disappointing, Mr. Colgate said, in view of the total net sales for 1937, $99,991,355, an increase of $10,359,952 over the year 1936, made despite decline of sales during the last quarter because of general business conditions.

New Household Cleanser

Tri-State Development Co., Bowditch, N. C., plans to produce I-X-L Household Cleanser, consisting of about 90 per cent feldspar and 10 per cent of detergents. The raw material is to be delivered from the plant of the Feldspar Milling Co., Bowditch, to Tri-State by overhead conveyor. This is stated to be the first time that one of the state's nonferrous minerals has been processed within the state's borders for the ultimate consumer.

Cleaner for Venetian Blinds

A new liquid cleaner for Venetian blinds is called "See-More" and was developed by Seymour Products Co., 1424-A Merchandise Mart, Chicago. It claims to dissolve and remove dirt, grease, fly specks and water spots.

Opens Coast Office

Detroit Rex Products Co., Detroit, manufacturer of cleaners, degreasing machines and solvents, has opened a branch office at Huntington Park, Calif. The office will serve the South-West section of the United States. A representative selection of the company's products will be carried.

Weightman to Chemical Equip.

Hugh E. Weightman, designing engineer, has been named technical director for Chemical Equipment Corp., Montpelier, Ind., pump, valve and process equipment manufacturers. The appointment of Mr. Weightman is in accordance with plans by the company for the development of new production models in the pump and valve lines, and in the manufacture of unit process equipment. Under a change in the corporate structure early in 1938, the firm name was changed from Chemical Equipment Co. to Chemical Equipment Corp. Lloyd A. Fanning was elected president, Walter B. Stevenson, vice-president, and Rowland Hill, treasurer since 1922, secretary-treasurer.

Textile Chemists Hear Macia

W. F. Macia, of A. M. Tenney Associates, textile sales firm, New York, spoke before the meeting of the New York Section of the American Association of Textile Chemists and Colorists held at Rochelle Park, N. J., on April 22. Mr. Macia, who has engaged in research work on rayon crepe under the sponsorship of the American Association of Textile Chemists and Colorists, the Textile Foundation and the Throwsters Research Institute, spoke on "Oils and Sizes Used in the Manufacture of Rayon Fabrics, and Their Influence on Dyeing."

Soap Employment Index

The index of employment in the soap industry for February, 1938, compiled by the U. S. Dept. of Labor, registered 96.6 as compared with 94.0 in January, 109.8 in February, 1937, and 100 as the three-year average for the period 1923-1925. The payroll index for February, 1938, was 111.4, as compared with 109.2 in January and 124 5 in February, 1937.

Represent Quaker Chemical

George F. Ecker, for some years associated with National Oil Products Corp., Harrison, N. J., has joined the Quaker Chemical Products Corp., Conshohocken, Penna., to handle the sale and development of silk oils and other textile specialties among the mills of Pennsylvania, Southern New Jersey, and Delaware, and to act as technical service advisor in that territory. Quaker Chemical also announces that Wittichen Chemical Co., division of the Wittichen Transfer & Warehouse Co., Birmingham, Ala., is now representing them among the textile, leather, paper and metal trades of Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, and parts of Florida, Georgia, and Tennessee. Wittichen Chemical is also distributor at Birmingham for Solvay Sales Corp., Ansul Chemical Co., and Barrett Co.

Protective Action of Silicate

Silicate as an ingredient of soap is believed to have a definite protective action in two ways in the washing of cotton goods, according to a recent summary of tests in "Silicate P's & Q's" of the Philadelphia Quartz Co. The retention of brilliant colors in wash goods after repeated washings with silicate-built soaps as compared with other soaps leads to the conclusion that the silicate present prevents redeposition of the soil from wash water and also retards fading by preventing the dyes from being brought into solution by the soap. Sodium metasilicate was the material used as soap builder in the test washing.

In Commercial Solvents Posts

Theodore P. Walker, formerly executive vice-president of Commercial Solvents Corp., New York, is now president. E. W. Bacigalupi has been named manager of the Western sales division.

Funsten Heads Filtrol Sales

S. R. Funsten is now sales manager of Filtrol Corp., bleaching clay manufacturers, Los Angeles.

Criticizes U. S. P. Soft Soap

THOSE who drew up the specification for U.S.P. Soft Soap (*Sapo Mollis*) "do not know how to make soap," according to the head of a well-known soap specialty firm, who prefers to remain anonymous. He criticizes Soft Soap as outlined in the U.S.P. XI as the result of a formula which has been juggled so many times that today it leaves much to be desired. He states in part:

"The manufacture of the Soft Soap described in the U. S. Pharmacopeia under the heading *Sapo Mollis* has been anything but satisfactory for the past decade. Up to and including all of the revisions, namely one to eight, very little difficulty was encountered as a standard formula called for a potash soap made from linseed oil with certain tests to be complied with on anaylsis. Since that time, those responsible for the formula have juggled it so that today we doubt very much whether or not the bulk of soap sold as *Sapo Mollis U.S.P. 11th* really gives the user what is required.

Within the past few months various criticisms have been sent to us in this regard. The present formula leaves much to be desired. It calls for added glycerine so that in the finished product, the total glycerine present, considering that added and that in the original U.S.P. linseed oil supposed to be used, should total substantially 10-11 per cent, but in the test specification no mention is made of this. Some producers add the glycerine, and some do not. Glycerine was at one time thirty cents a pound, and today is approximately sixteen cents, and so the selling price on the finished soap is naturally quite different.

Just what function the added glycerine is supposed to have in the finished soap is quite beyond us. We cannot help but think that those responsible for composing this specification, not knowing how to make soap, added the glycerine to avoid bunching, similar to the alcohol that used to be used when making U.S.P. 9th and 10th. The present formula, similar to the 10th revision, calls for the use of caustic soda in conjunction with caustic potash to effect saponification. In the last revision, if you do not like this, you are given a choice of using all caustic potash to effect saponification.

In the past, various producers found it expedient, in order to meet price situations, to use instead of pure linseed oil all sorts of concoctions, namely linseed fatty acids containing four to eight per cent unsaponifiable matter, heterogeneous mixtures of soya bean oil, perilla oil, etc. hoping that the iodine number of the finished mixture of oils would be somewhat comparable to that of linseed oil. So, in order to stop this, there was included in the last revision a test for the iodine number of the fatty acids to insure the use of linseed oil, and also, since the majority of manufacturers couldn't meet the requirements of 0.10 per cent to 0.25 per cent free alkali, they changed this to make it easier.

Now, the Medical Section of the U. S. Army, having been all through the difficulties attendant on the purchase of this soap have set up practically a foolproof formula which even now is being held open to question.

We have written the above as we think that your magazine should open up this question fully, primarily for the reason that drug firms and pharmaceutical manufacturers are not getting what they want in the majority of cases. A recent survey shows that the percentage of glycerine in tincture of green soap and in creosote compound does not in the large majority of cases comply with the requirements of the Pharmacopoeia. This was brought to our attention very strenuously by a house to whom we sell this type of soap, in which we do not add the extra glycerine as we do not see the necessity of it. Nor do we see why we should be compelled to use it because those who formulate the specification do not know how to make soap. If there is a good reason for its inclusion let it be brought out in the open so that the entire industry and the consumers of it know this reason."

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Wins Right to "Nobio" Mark

Nobio Products, Inc., New York, has been granted the right to use the trade-mark "Nobio" by a recent decision of the Commissioner of Patents, who held that it was not an infringement of the letters "B.O." used by Lever Bros. in the advertising of their soaps. The decision calls attention to the fact that the goods of Nobio Products are liquid deodorants, while those of Lever Bros. are soaps having deodorant and antiseptic properties. The Commissioner of Patents also points out in his decision that Lever Bros. have not employed the letters "B.O." except as an abbreviation of the words "body odor," which may be used by any dealer to describe the character of his merchandise, and, therefore, the difference between the trade-marks as well as the difference between the characteristics of the products are such that the word "Nobio" is not an infringement of the letters "B.O."

—— ♦ ——

Wants American Toilet Soaps

A concern in London, Eng., is interested in communicating with American manufacturers of toilet soaps relative to a purchase arrangement. Inquiries may be forwarded to the U. S. Bureau of Foreign & Domestic Commerce, Washington, mentioning inquiry No. 6101.

—— ♦ ——

Moore Bros. Move

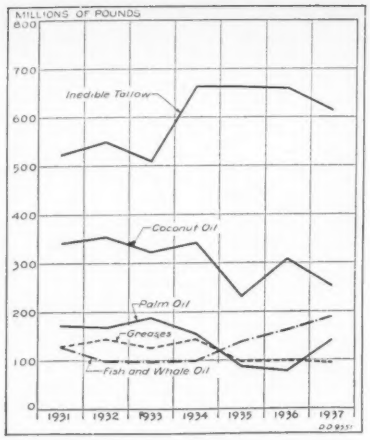
Moore Bros., soap dispenser manufacturers, formerly at 200 Hudson St., New York, have moved to 67 Vestry St.

Oil Imports at Record High

Imports of foreign fats and oils into United States reached a new record high mark of 2,828,000,000 lbs. in 1937 according to figures included in an article by Charles E. Lund in the April, 1938 issue of *Survey of Current Business* issued by the U. S. Department of Commerce. During the 1931 to 1935 period the average yearly import total was in the neighborhood of 1,825,000,000 lbs. per year.

According to Mr. Lund, who is fats and oils specialist in the Foodstuffs Division of the Bureau of Foreign and Domestic Commerce, "The heavy imports in 1937 were due in considerable measure to the drought in 1936 and to the constantly mounting domestic consumption which rose to over 9 billion pounds in 1936, and reached 9,300 million pounds in 1937. Imports have been substantially reduced in recent months, following the record production of cottonseed in 1937 (nearly 18 billion pounds), and the second heaviest soybean crop on record (approximately 2½ billion pounds).

"The demand for fats and oils was reduced in the latter part of 1937, because of a slackening in business activity. Inventory stocks of fats and oils on December 31, 1937, were 2,958 million pounds—an increase of 19 percent as compared with the previous year."



The Trend of Oil and Fat Consumption by The Soap Industry.

The soap industry is of course the largest industrial consumer of fats and oils in the United States, using about one and a half billion pounds annually. In his article Mr. Lund reviews some of the changes that have taken place in recent years in the type fats and oils that are going to the soap kettle. He refers particularly to the sharp increase in use of palm oil during 1937.

U. S. Imports of Fats and Oils Including the Oil Equivalent of Oilseeds[1]
(Thousands of pounds)

Fats and oils	1937	1936	*Average five years, 1930-34*
Sunflower seed oil	475	25,255	11,286
Corn oil	32,926	28,672	[2]
Cottonseed oil	194,008	127,787	[2]
Olive oil	75,314	90,418	128,427
Palm kernel oil	179,087	35,491	27,335
Tung oil	174,885	134,830	102,065
Peanut oil	57,999	49,006	2,261
Coconut oil	676,158	551,061	628,184
Palm oil	411,112	338,789	241,164
Rapeseed oil	8,017	72,944	17,130
Sesame oil	44,239	58,730	28,142
Perilla oil	43,591	117,903	17,318
Soybean oil	29,752	7,187	3,952
Linseed oil	534,117	293,290	242,694
Castor oil	66,064	73,835	44,292
Poppyseed	3,424	3,105	3,107
Hempseed oil	115	15,075	[2]
Babassu oil	34,519	37,184	[3]
Vegetable tallow and waxes	29,625	21,540	11,887
Glycerines	20,976	14,596	12,055
Other vegetable oils	58,953	47,260	19,385
Animal oils, fats, and greases	30,120	99,430	20,697
Whale and fish oils	122,849	93,818	104,830
Total	2,828,325	2,337,206	1,666,211

[1] Assuming that all oilseeds are crushed for oil. Some imports are used for planting, some as birdseed, some as decorations on bakery products.
[2] Included in other vegetable oils.
[3] No imports shown.
Source: Bureau of Foreign and Domestic Commerce.

Watkins Sponsors Gift Offer

R. L. Watkins Co., New York, is sponsoring a promotion campaign on "Dr. Lyon's" tooth powder by offering consumers a gold-plated bracelet and charm gift in return for a carton front of a regular size package of tooth powder and ten cents. Newspapers, radio and car card announcements are being used to publicize the campaign.

Heads Wilson & Bennett

Wilson & Bennett Mfg. Co., Chicago, makers of steel containers, recently announced the election of Harry M. Gustafson as president of the company. He succeeds Stevens A. Bennett who has been named chairman of the board and general manager. Mr. Gustafson resigned as a vice-president of Northern Trust Co. to accept the new position.

Feldspar Production Up in 1937

The feldspar industry broke all previous production records in 1937, according to the U. S. Bureau of Mines. Sales of crude surpassed the 1936 peak by 10 per cent, and sales of ground spar were 18 per cent above the 1936 figure. Ground feldspar used in soaps and abrasives in 1937 totaled 1,653 short tons, as compared to 1,328 short tons in 1936.

Chicago Drug Assn. Dance

The annual Spring dinner dance of the Chicago Drug and Chemical Association will be held Saturday May 14th in the Red Lacquer Room of the Palmer House, Chicago.

Axton-Cross Moves

Axton-Cross, Inc., cleaners, formerly at New Haven, Conn., have moved their offices and plant to Cheshire, Conn.

Sefton Can Names Busch

Ralph B. Busch is now sales manager of Sefton Fibre Can Co., St. Louis.

Japan Dumping Glycerin

Overproduction of glycerin in Japan, which has been stimulated by the Chinese hostilities, has now reached the point where Japanese producers are preparing to dump excess stocks in the American market, according to a special dispatch from Tokyo to the publishers of *Soap*.

In spite of the huge demand by the munitions industries, Japanese stocks of glycerin have been mounting at a fast rate. Quotations have weakened continuously during the past few months and are now 55c per kilogram for medical grade, 62c for explosive glycerin, and 53c and 50c for first and second grade industrial glycerin.

In a recent meeting the Glycerine Joint Sales Company decided to dump a trial shipment of 1,000 metric tons on the U. S. market, mainly in Eastern districts. The matter of an export subsidy was also discussed.

Japan's glycerin industry has developed under strong government protection. The product was imported in considerable quantity until 1935, when domestic production totaled no more than 8,535 metric tons. Even during the first half of 1937, some 3 tons were shipped to Japan. The situation has completely changed since the outbreak of the current hostilities.

The munitions boom stimulated many chemical firms in Japan and Korea to go into glycerin production. As a result of the unplanned rush, the productive capacity is believed to be twice that of 1935, the last year for which figures are available. Considering that the present situation is not particularly in favor of glycerin export from Japan, it must be expected that Japanese glycerin will become a formidable factor in the world markets as soon as the military demand returns to a normal level.

"Bab-O" in Spring Offer

B. T. Babbitt, Inc., New York, is sponsoring a Spring promotion campaign through advertisements in southern California newspapers, offering a variety of flower seeds, in return for a label from a can of "Bab-O" and ten cents.

"Sylk" Mark Not Allowed

Clairol, Inc., New York, has been denied permission to register its trade-mark "Sylk" describing hair shampoos by the Examiner of Interferences in the U. S. Patent Office. The Examiner, in his decision, declared that the mark is confusingly similar to the trade-mark "Silk-Life" of Lightfoot Schultz Co., New York, describing soaps suitable for use upon silk, and that, therefore, the trade-mark "Sylk" could not be allowed.

Loose-Wiles Loses Tax Suit

The complaint of Loose-Wiles Biscuit Co. against the Federal Government for refund of taxes paid on coconut oil which had been refined prior to May 10, 1934, has just been dismissed by the Circuit Court of Appeals for the Second Circuit. The decision was handed down by Judge Chase who stated that "the statute contains inherent evidence that the expression 'first domestic processing' was used to designate the first domestic processing after May 10, 1934." Another important consideration affecting the decision of the Circuit Court was the fact that Congress, in re-enacting the measure in Sec. 702 of the 1936 Revenue Act left the words "first domestic processing" unchanged, implying Congressional approval of the administrative interpretation of the phrase. An entirely opposite version of the meaning of the phrase was adopted by Judge Druffel in his recent decision in the Cincinnati Soap Co. case, overruling the petition of the government for a demurrer. Judge Druffel adopted the interpretation that the law meant to tax only the *first* domestic processing, holding that if this first processing had been performed prior to May 10, 1934, subsequent processing was not taxable. With the government's petition for a demurrer overruled, the Cincinnati Soap Co. case will shortly come to trial.

Business Paper Advertising

"Advertising and Selling through Business Publications" is a new book by Mabel Potter Hanford, business paper specialist with Batten, Barton, Durstine & Osborne, New York. It is the first volume dealing exclusively with the business paper advertising problem and should supply a considerable amount of much needed advice to a great many industrial advertisers — particularly to those users of trade paper space who do not have regularly constituted advertising departments. The first subject taken up is the place of business papers in the industrial advertising program. In this chapter Mrs. Hanford exposes a number of arguments which sometimes are used to oppose the use of business paper advertising. She points out that because these publications are so closely read in the industries they serve (and backs this statement with figures) that they very effectively support salesmen and add to the effectiveness of their calls. Points brought out in this connection include presenting the sales story before the call, repeating it over and over again in different ways after the call without offense, reaching the men who very definitely influence buying (more figures) but whom the salesman can never see unless he can make calls on a half dozen or more men in the same organization, etc.

There are a number of types of publications serving the business field and these are described in detail. Circulation methods come in for attention which is needed in many quarters. The recognized audit bureaus are described in detail and the advertiser is shown how they can very materially affect his advertising program. Specimen audit reports of the Audit Bureau of Circulations (for paid circulation) and the Controlled Circulation Audit (for controlled or free circulation) are taken apart to show how much information the advertiser can get out of them. Other chapters are devoted to a close scrutiny of editorial standards, including the activities of the

. . . . *fine toilet soaps*

demand expert perfuming!

Our perfume laboratory offers just that—"expert perfuming."

With a background of over twenty-five years and as specialists in the art of soap perfumery we know that we can produce odors for you that will help to increase you future soap sales. Be sure to specify CEFCO odors when you are creating a new package.

Use CEFCO service for improving established odors.

"CEFCO"

SOAP-S-ENCES

PERFUME SOAP

EXPERTLY — EXQUISITELY

— SPECIAL SOAP ODORS CREATED IN ACCORDANCE WITH YOUR SPECIAL REQUIREMENTS —

CHARLES FISCHBECK CO. INC.

Backed by Over a Quarter of a Century of Experience

119 WEST 19TH STREET NEW YORK

editor, and to the importance of using the right kind of advertising copy.

The book, consisting of 190 pages, was published by Harper & Bros., New York. The price is $4.00.

Japanese Soap Exports Up

Exports of toilet and laundry soaps from Japan showed a big increase in 1937 as compared with 1936, according to figures just made available in Tokyo. Japan exported over four and a half million dozen cakes of toilet soap in 1937, as compared with slightly less than four million dozen in the previous year. The value of 1937 toilet soap exports was 3,043,076 yen (app. $885,000) as compared with 2,709,009 yen (app. $785,000) in 1936. Exports of laundry soap showed a substantial gain in 1937, totaling approximately 29,000,000 lbs., worth in the neighborhood of $680,000. Their value in 1936 was only approximately $445,000.

FTC Checks "Pyreagos" Claims

Bear Crest Co., Los Angeles, distributor of "Pyreagos" tooth powder, has entered into stipulations with the U. S. Federal Trade Commission agreeing to discontinue representing that its product is a treatment for pyorrhea, or is an insurance for clean teeth and healthy gums, or is a "perfect" tooth powder "without a defect," or is capable of hardening the gums, or stopping a spongy, bleeding condition of the gums.

Cowles Detergent Names Agency

Cowles Detergent Co., Cleveland soap manufacturer, has appointed Bayless-Kerr Co., advertising firm of that city, to handle a direct-mail and business publication campaign.

Recover Spent Soap in Germany

The shortage of fats has become so acute in Germany, it is reported, that laundries are now required to collect spent soap from waste water and send it to fat recovery plants.

Urge Monthly Report on Oils

A bill directing the U. S. Bureau of the Census to make monthly reports on the vegetable oil business, and greatly increasing the authority of the bureau in collecting periodic reports from other industries, has been passed by the House of Representatives at Washington, and sent to the Senate. The quarterly report on production and stocks of animal and vegetable oils and fats, which has been published since 1919, is on a voluntary basis. The proposed bill would change this to a monthly report and give the bureau authority to require producers to supply statistics.

Exhibits at British Trade Fair

Among the displays in the chemical section of the British Industries Fair, held in England recently, were those of Thomas Hedley & Co., British subsidiary of Procter & Gamble Co., whose third factory in Great Britain is now under construction at West Thurrock on Thames. The Hedley exhibit featured a display of industrial soaps for laundries, hospitals, textile manufacturers, schools and institutions. This firm is said to be leading the British trend away from bar soaps in favor of soap in granule and flake form.

Wants Shampoo Agency

A concern in Cairo, Egypt, is interested in communicating with American manufacturers of hair shampoos relative to an agency arrangement. Inquiries may be forwarded to the U. S. Bureau of Foreign & Domestic Commerce, Washington, mentioning inquiry No. 6103.

Report on Castor Uses

On the basis of field, laboratory and processing investigations carried on for the past four years, Woburn Degreasing Co., Harrison, N. J., has completed a plan for the agricultural development of the castor plant and chemical processing use in industry of the bean, its oil, and the insecticidal constituent of its leaves. The Agricultural Chemical Association has been formed for promotion of the plan. The Woburn report presents, in addition to the existing and potential markets for castor oil and its chemical derivatives, data on the insecticidal properties of the leaves of the castor plant.

Henry A. Rennebaum Dies

Henry A. Rennebaum, a veteran of the soap industry, died recently at the age of 84. Mr. Rennebaum was with Kirk Soap Co., Chicago for 56 years and at the time of his retirement in 1932 was assistant superintendent. Mr. Rennebaum is survived by six children.

Chicago Assns. Golf May 10

The Golf Auxiliary of the Chicago Drug and Chemical and Chicago Perfumery, Soap and Extract Associations has set May 10th as the date for the first tournament of the 1938 season. Play will be at the Itasca Country Club. Five tournaments, including the inter city meet with Detroit, will be held in Chicago this year. George Epstein and G. F. Pauley are co-chairmen of the 1938 committee.

Felton Opens Coast Branch

Felton Chemical Co., Brooklyn, has opened a branch factory and sales office in Los Angeles. Robert E. Felton has been placed in charge of sales in the Los Angeles and Southern California districts, and Philip A. Weinrobe in charge of sales in the San Francisco, Northern California, Washington and Oregon territories. Ample stocks of all Felton products, it is announced, will be carried at the new branch so as to permit prompt deliveries.

Soap Employment Index

The index of employment in the soap industry for March, 1938, compiled by the U. S. Dept. of Labor, registered 95.8 as compared with 96.3 in February, 111.0 in March, 1937, and 100 as the three-year average for the period 1923-25. The pay roll index for March, 1938, was 111.3, as compared with 111.2 in February and 123.2 in March, 1937.

You can save on

PERFUMING COSTS

. . . and still maintain quality

BERGAMOT ARTIFICIAL NORDA is the answer. It meets the most exacting requirements . . . and in view of the present high price of the natural oil, BERGAMOT ARTIFICIAL NORDA offers a material saving in perfuming cost without sacrifice of quality.

Ask NORDA for further details.

Norda

ESSENTIAL OIL and CHEMICAL COMPANY

Chicago Office
325 W. Huron St.

Los Angeles Office
685 Antonia Ave.

St. Paul Office
Pine and E. 3rd St.

Canadian Office
119 Adelaide St., W., Toronto

New York Office
601 West 26th St.

Southern Office
Candler Annex Bldg., Atlanta, Ga.

New Magnus Cleaner

For cleaning a large variety of painted, marble, tile and other surfaces, a new heavy duty cleaner has been developed by Magnus Chemical Co., Garwood, N. J., under the name "Magnus 55-P." This product is a heavy, viscous, clear oil which dissolves in either warm or cold water. It is similar to a neutral soap in its general properties, being free of alkali, alkaline salts, acid or abrasive, it is reported, but has superior penetrative and solvent properties. It does not harm the surface washed, according to the maker, yet cuts and removes oily dirt, traffic film, etc., and does not leave a bluish gray cast. In addition to being a cleaner, this product is also said to be an effective antiseptic and deodorizing agent.

Wants Soap Agency

A concern in San Pedro de Macoris, Dominican Republic, is interested in establishing an agency arrangement for sale of toilet soaps. Interested parties may secure further particulars through the U. S. Bureau of Foreign & Domestic Commerce, Washington, D. C., inquiry 5809.

World Whale Output Up

World whale oil production is estimated at 1,260,000,000 pounds for the whaling season from Dec. 1937, to March, 1938. This is an increase of 27 per cent over the 1936-37 season, and 38 per cent increase over the 1935-36 season, according to the U. S. Bureau of Foreign and Domestic Commerce. The nations participating in the Antarctic whaling season were reported to have produced on the following basis: Germany, 202,122,000 pounds; Japan, 154,211,600 pounds; Norway, 296,129,45 pounds; British Empire, 429,696,400 pounds, and the United States, 42,670,200 pounds.

"Prim" Cleaner Names Agency

Prim Corp., St. Louis, manufacturer of a new liquid cleaner for painted surfaces and household objects, has appointed Gardner Advertising Co., in that city, to handle its advertising. Newspapers will be used in connection with campaigns already started in St. Louis, Indianapolis, Cincinnati and Minneapolis.

Chicago Perfumers' Spring Party

The Spring party of the Chicago Perfumery, Soap and Extract Association on April 28th at the Stevens Hotel was for the first time in several years a stag affair. Following a buffet supper a floor show was presented. Arrangements were handled by the entertainment committee headed by Chris Christensen and E. P. Scown.

Excursion for Lever Workers

In celebration of the 50th anniversary of the founding of Port Sunlight, Lever Bros. have invited and made arrangements for all of the employees of that factory to visit the Empire Exposition at Glasgow, Scotland, this summer. Between 6,500 and 7,000 employees will attend.

Asco Chemical Moves

Asco Chemical Co., saddle soap manufacturer, formerly at 239 Alabama Ave., Brooklyn, has moved to 641 Lexington Ave.

Places Advertising Account

Crescent Chemical Co., Philadelphia, manufacturer of laundry chemicals, has appointed J. Zanforth Co., Philadelphia, to handle its advertising account.

J. B. Williams on the Air

J. B. Williams Co., Glastonbury, Conn., manufacturer of "Glider" shaving cream, is sponsoring a musical program called "Gliding Swing" over station WEAF of the National Broadcasting Co. The program started April 21.

Eastern Color Moves

Eastern Color & Chemical Co., formerly at 235 Fourth Ave., New York, has moved to 142 Nassau St.

S & S Soap Moves

S & S Soap Corp., formerly at 725 Kent Ave., Brooklyn, has moved to 205 Nary St.

Sulfated Fatty Alcohols

(Continued from Page 27)

acids with 16 or 18 carbon atoms as wetting, dispersing, cleaning and penetrating means."

This patent is No. 659,277 (Erteilungen date March 31, 1938).

The use and manufacture of the sulfuric reaction products of the higher fatty alcohols are covered broadly in United States Letters Patents Nos. 1,968,793, 1,968,794, 1,968,975, 1,968,796 and 1,968, 797, issued to the American Hyalsol Corporation on July 31, 1934. These patents are based upon the two above noted German applications as well as other German applications. The manufacture, use and sale of the sulfuric reaction products of mixed alcohols recovered from sperm oil is covered specifically by United States Letters Patent No. 2,114,043 issued to the American Hyalsol Corporation on April 12, 1938.

Numerous other patents and applications of the American Hyalsol Corporation cover improved methods of manufacture of the sulfated and sulfonated fatty alcohols and improved products resulting therefrom.

We believe that any inference which might be drawn from the article above referred to, to the effect that the manufacture of sulfation products of cetyl alcohol or mixed sperm oil alcohols and their use in a detergent process is not covered by the patents of the American Hyalsol Corporation, is refuted by the above facts.

It is the intention of the American Hyalsol Corporation to protect its licensees in the sulfated fatty alcohol field by vigorous prosecution of any unlicensed manufacture or use of sulfated or sulfonated fatty alcohols, but so far when the above facts have been called to the attention of infringing manufacturers, the infringers have voluntarily discontinued the infringements and hence no cases have been brought to trial in this country.

A CANDID TALK... ON FLAKE SOAPS

FLAKE SOAPS have become popular members of many well-known lines. Greater saleability results when the detergent properties of P.Q. Silicates are used to the fullest extent.

It is true that excessive quantities of silicate of soda improperly incorporated have produced white, crumpled flakes. However, by correct application, an increased amount of P.Q. Silicate has been used by many soap makers to make a smooth clear product.

P.Q. experience in the application of silicates in household soaps dates back more than three-fourths of a century. Bulletin No. 1 reviews much of this. Send for a free copy.

EST. 1831 PQ Reg. U.S. Pat. Off.

PHILADELPHIA QUARTZ COMPANY

General Offices and Laboratory: 125 South 3rd Street, Philadelphia.
Chicago Sales Office: Engineering Building, 205 West Wacker Drive.

Works: Anderson, Ind., Baltimore, Md., Chester, Pa., Buffalo, N. Y., Kansas City, Kans., Rahway, N. J., St. Louis, Mo., Utica, Ill. Stocks in 60 cities.

P. Q. SILICATES OF SODA

Contracts Awarded

Brooklyn Soap Awards

Kirkman & Sons, Brooklyn, were awarded the contract for 100,000 pounds of laundry soap at 3.3c in a recent opening by the U. S. Army Quartermaster at Brooklyn. On two lots of toilet soap, 202,000 cakes and 60,000 cakes, Procter & Gamble Distributing Co., New York, was awarded the contracts at 2.62c and 1.08c respectively. On 100,000 cakes of grit soap, Day & Frick, Philadelphia, were awarded the contract at 2.95c. On 6,000 pounds of saddle soap and 24,000 pints of metal polish, R. M. Hollingshead Corp., Camden, N. J., was awarded the contract at 9.6c, and 5.9c. respectively.

Low Soap Paste Bidders

Larkin Soap Co., Teaneck, N. J., was low bidder on 6,948 pounds of soap paste at 3.95c in a recent opening by the Procurement Division of the U. S. Treasury Dept. at Washington. On 7,500 pounds of soap paste, Conray Products Co., New York, was low bidder at 3.94c. On an additional lot of 6,250 pounds of soap paste, John T. Stanley Co., New York, was low bidder at 3.15c.

Cleaning Compound Award

Crystal Soap & Chemical Co., Philadelphia, was awarded the contract on three lots of cleaning compound at prices of 13c, for two of the lots, and 14.9c for the third, in a recent opening at the U.S. Naval Aircraft Factory, at Philadelphia.

Phila. Soap Recommendations

Colgate-Palmolive-Peet Co., Jersey City, N. J., was recommended contracts on 97,500 pounds of laundry soap at 3.8c for delivery to Philadelphia, and 97,500 pounds of laundry soap at 3c for delivery to San Francisco, in a recent opening by the U. S. Marine Corps Quartermaster at Philadelphia. On 140,000 pounds of soap powder, Armour & Co., Chicago, were recommended for the contract at 2.98c. On 12,063 pounds of grit soap, Conray Products Co., New York, was recommended for the contract at a price of 3.59c.

Low Grit Soap Bidder

Unity Sanitary Supply Co., New York, was low bidder on 5,625 pounds of grit soap at 3.9c, in a recent opening by the Procurement Division of the U. S. Treasury Dept. at Washington.

Jeffersonville Soap Award

S. Strunz & Son, Pittsburgh, were awarded a contract for 20,000 pounds of soap chips at 6.43c, in a recent opening by the U. S. Army Quartermaster, at Jeffersonville, Ind.

Rock Island Soap Award

Swift & Co., Rock Island, Ill., were awarded a contract for 5,640 pounds of washing powder at $318, in a recent opening by the U. S. Army Engineer Corps, at Rock Island, Ill.

Low Laundry Supply Bidders

J. Eavenson & Sons, Camden, N. J., were low bidders on 100,000 pounds of laundry soap at 1.89c, in a recent opening by the Procurement Division of the U. S. Treasury Dept. at Washington. On 15,000 pounds of scouring powder, Imperial Products Co., Philadelphia, was low bidder at 1.35c.

Grit Soap Award

Day & Frick, Philadelphia, were awarded the contract for 200,000 cakes of grit soap at 2.95c, in a recent opening by the U. S. Quartermaster, at Brooklyn.

Insecticide Award

R. M. Hollingshead Corp., Camden, N. J., was awarded contracts on three lots of insecticides, 50 drums at $660, 50 drums at $1,141, and 36 drums at $822, in a recent opening by the Procurement Division of the Veterans' Administration, at Washington.

Low Polish Bidder

Marjo Products Co., Chicago, was low bidder on 1,200 gallons of metal polish at 27.2c per gallon, in a recent opening by the U. S. Post Office Dept., at Washington.

Chip Soap Award

John T. Stanley Co., New York, was awarded the contract on 4,025 pounds of chip soap at 6.95c, in a recent opening by the U. S. Marine Corps, at Washington.

Fort Peck Soap Award

Colgate-Palmolive-Peet Co., Jersey City, N. J., was awarded a contract for 6,000 pounds of powdered soap at $486, in a recent opening by the U. S. Army Engineer Corps, at Fort Peck, Mont.

Treasury Department Bids

James Good, Philadelphia, was low bidder on 550 gals. of liquid cleaner at 22.7c in a recent opening by the Procurement Division of the U. S. Treasury Dept. at Washington. On 135 gals. of disinfectant, Murphy Products Co., Washington, was low bidder at 60c.

Frank M. Dudley Dies

Frank M. Dudley, 71, vice-president and secretary of J. H. Day Co., milling and mixing machinery, Cincinnati, died last month. He had been associated with J. H. Day Co. since 1888, serving as vice-president since 1901, when the company was incorporated, and as secretary since 1910. A widow and two daughters survive.

Opens St. Louis Branch

Fritzsche Bros., Inc., New York, announce the opening of a new branch office at St. Louis. Franc A. Barda, representative of the firm for a number of years, has been placed in charge. A representative selection of the company's line of essential oils and aromatic chemicals will be carried at the new branch.

DUROFIX

PROTECT YOUR INVESTMENT IN SALES-COMPELLING SCENTS . . . WITHOUT A PENNY'S ADDED COST

YOU'VE a very real investment—in money, creative skill and materials—in your product's fragrance. And like any other investment it should be properly protected.

That is the purpose of DUROFIX. Its substitution in soap for a portion of the perfume concentrate protects and prolongs the full, complex delicacy of its odor without altering its character or adding to its cost. What it really does is accentuate or "lift" the fragrance and round it off. In doing this the odor of the soap stock is completely covered; the perfume lasts longer on the skin and in the final stages of evaporation the full odor complex is present.

DUROFIX mixes readily with all essential oils and aromatic chemicals and may be used in white soaps without danger of discoloration, in toilet soaps, liquid soaps, bath salts, etc. It will not hydrolize or saponify. Its detailed uses, properties and action have been incorporated in a circular which we shall be glad to send to anyone interested in gaining a competitive advantage for his product by preserving its precious fragrance. Write for this, today.

FRITZSCHE Brothers, inc.

816 WEST 8TH STREET LOS ANGELES, CAL.
Proprietors of PARFUMERIES de SEILLANS Seillans, France
FRITZSCHE BROTHERS, of Canada, Ltd., 77-79 Jarvis St., Toronto, Canada

PORT AUTHORITY COMMERCE BLDG.
76 NINTH AVENUE, NEW YORK, N. Y.
118 WEST OHIO ST CHICAGO, ILL

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  These newly developed preservatives for soaps, animal and vegetable fats and oils are highly important to the soap manufacturer. Write us for full details concerning Oxidex.

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  These perfumes are highly soluble and mix readily with liquid soaps. Simple to use, cost limits and strength of odor desired determine quantity required.

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  We supply soap colors to produce any desired tint. Send us description or sample of color to be matched for our specific recommendations.

FTC Checks "Iodent" Claims

Iodent Chemical Co., Detroit, has entered into stipulations with the U. S. Federal Trade Commission agreeing to discontinue advertising that "Iodent" toothpaste will restore teeth to their "original brilliance and beauty," or that it will protect exposed surfaces of the teeth from the accumulation of dirt or harmful materials, or that it enables teeth to retain their "original brilliancy" 24 hours a day.

Added to Stearns Staff

Drs. Joel B. Peterson and Earl E. Kleinschmidt have been added to the staff of Frederick Stearns & Co., pharmaceutical manufacturers, Detroit. Dr. Peterson will be director of chemical research, while Dr. Kleinschmidt will assist Dr. Lloyd L. Ely.

Heads A.D.M.A. Committee

Victor Williams, Eastern manager of Monsanto Chemical Co., is head of the entertainment committee for this year's meeting of the American Drug Manufacturers' Association, which will be held at the Greenbrier, White Sulphur Springs, W. Va., May 2 to 5. Other members of the committee are: A. A. Wasserscheid and William Barry, Mallinckrodt Chemical Works; M. N. DeNoyelles, Chas. Pfizer & Co.; Frank McDonough, New York Quinine & Chemical Works; Jack Remensyder and George Simon, Heyden Chemical Co.; James Pardee, Dow Chemical; Gerald S. Furman, Merck & Co.; S. Barksdale Penick, Jr., of S. B. Penick & Co., and Robert Magnus of Magnus, Mabee & Reynard.

Mayham with World's Fair

S. L. Mayham, formerly editor *The American Perfumer*, has joined the New York World's Fair organization as account executive for soaps and cosmetics.

Lavo Appoints Sales Agents

Lavo Products, Manitoba, Canada, has appointed Lockwood Agencies, Winnipeg, as selling agents in Western Canada for its line of waterless soaps, hand pastes, cleaners and shampoos.

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The Treatment of Foot-ache and Local Bromidrosis
by F. G. HOBART

Conditioned Air in the Drug Industry
by J. ENGELS

Skin Whitening Preparations: Their Composition and Manufacture
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New Trade Marks

The following trade-marks were published in the April issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

DRUMMER BOY—This in solid letters describing dentifrice. Filed by Drummer Boy Dental Products Co., St. Louis, Feb. 3, 1938. Claims use since Jan. 29, 1938.

HYPOTOX—This in solid letters describing preparation for Athlete's Foot. Filed by Hypotox Laboratories, College Hill, Cincinnati, Jan. 24, 1938. Claims use since Dec. 1, 1937.

KORA KAYE—This in outline script with drawing of a royal crown, describing shampoo. Filed by Kora Kaye Co., Astoria, Long Island, N. Y., Jan. 25, 1938. Claims use since Jan. 6, 1938.

FORMULA 212—This on reverse plate describing antiseptic. Filed by Secret Products Co., Los Angeles, Jan. 29, 1938. Claims use since Jan. 1, 1937.

Cartoon figure of a man holding a picture of the product and winking one eye, describing bath salts. Filed by Phosphate Mining Co., New York, Feb. 17, 1938. Claims use since Feb. 11, 1938.

SHUREFLEX—This in solid letters represented as projecting from star, describing shoe polish. Filed by Michal Sienkiewicz, New York, Feb. 1, 1938. Claims use since Jan. 2, 1938.

KOSAN—This in solid letters describing shampoos.. Filed by Alice W. Koken, St. Louis, Jan. 18, 1938. Claims use since 1919.

ZETE—This in solid letters describing shampoo. Filed by Harry Aaron, Brooklyn, Jan. 24, 1938. Claims use since Jan. 12, 1937.

SMITH'S—This in script describing cleanser. Filed by Sno-White Mfg. Co., Monongahela, Pa., Dec. 3, 1937. Claims use since June 1, 1937.

DWIN WHITE—This in reverse on rectangular design describing shoe white. Filed by Baldwin Laboratories, Saegertown, Pa., Jan. 8, 1938. Claims use since Oct. 11, 1937.

MEDALLION SWING DRY COMPLEXION SOAP—This in solid letters on fanciful oval design, describing toilet soap. The words "Swing Dry Complexion Soap" are disclaimed apart from the mark. Filed by Medallion Cosmetic Co., New York, Jan. 24, 1938. Claims use since June 1, 1937.

AEROMIST—This in solid letters describing glass cleaner. Filed by Midway Chemical Co., Jersey City, N. J., Feb. 5, 1938. Claims use since Jan. 10, 1936.

PRINCE CHARMANT — This in solid script with drawing of royal crown describing shampoo. Filed by Charles J. Romer, New York, Apr. 13, 1937. Claims use since March, 1934.

OLD SNICE — This in solid script describing shampoos. Filed by Shulton, Inc., New York, Oct. 1, 1937. Claims use since Aug. 26, 1936.

PARK-O-SOL — This in solid letters describing treatment for athlete's foot. Filed by Parker Drug Co., Raleigh, N. C., Dec. 22, 1937. Claims use since July 10, 1936.

GLOFOS — This in stencilled letters describing household cleaner. Filed by General Chemical Co., New York, Jan. 7, 1938. Claims use since Nov. 29, 1937.

VELCOLITE—This in solid letters describing dry cleaning aid. Filed by Midland Chemical Laboratories, Inc., Dubuque, Ia., Jan. 22, 1938. Claims use since Jan. 10, 1938.

TICK—This in solid letters describing drain pipe cleaner. Filed by Derris, Inc., New York, May 13, 1936. Claims use since Apr. 15, 1936.

WAXOLINE — This on reverse plate describing furniture and automobile polish. Filed by Oil Specialties & Refining Co., Brooklyn, Jan. 8, 1938. Claims use since July 20, 1935.

DANDY-DUN — This in solid letters describing metal and floor polish. Filed by Oil Specialties & Refining Co., Brooklyn, Jan. 8, 1938. Claims use since Dec. 9, 1931.

PAUL BUNYAN—This in script describing shaving cream. Filed by Paul Bunyan, Inc., St. Paul, March 18, 1937. Claims use since July 29, 1935.

AIME COMPLEXION FLAKES—This on reverse plate of geometric design with drawing of young girl, describing soap flakes. No claim is made to the words "Complexion Flakes" apart from the mark. Filed by Aime Distributing Co., New York, Oct. 7, 1937. Claims use since Sept. 1, 1936.

OWNANAME—This in solid letters describing treatment for Athlete's Foot. Filed by Buck & Buck Co., Tulsa, Okla., Jan. 28, 1938. Claims use since Dec. 23, 1937.

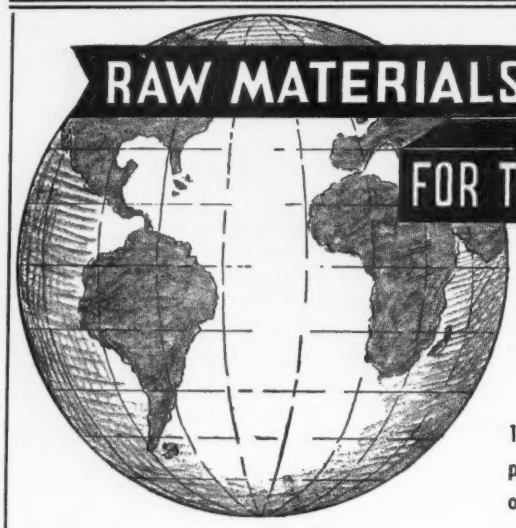
FURMERANE — This in solid letters describing antiseptic. Filed by G. D. Searle & Co., Chicago, Feb. 1, 1938. Claims use since Jan. 10, 1938.

A WATCH DOG IN THE REFRIGERATOR—This in solid letters with drawing of bull dog, describing refrigerator deodorant. Filed by Darco Corp., Wilmington, Jan. 4, 1938. Claims use since Feb. 24, 1933.

CAL-SAFE—This in solid letters describing germicide. Filed by Calgen, Inc., Pittsburgh, Aug. 10, 1937. Claims use since Aug. 3, 1937.

CASKLOR—This in solid letters describing germicide. Filed by Cascade Sprayer Co., Seattle, Nov. 17, 1937. Claims use since Sept. 15, 1936.

BUBBLING OVER—This in solid letters describing bath salts. Filed by Frances Denney, Philadelphia, Jan.



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3, 1938. Claims use since Oct. 8, 1937.

KEEGO—This in shaded outline letters describing cleaning compound. Filed by J. B. Ford Co., Wyandotte, Mich., July 31, 1937. Claims use since Jan. 1, 1937.

BRACE—This in solid script describing shaving soap. Filed by McKesson & Robbins, Inc., Bridgeport, Conn., Dec. 22, 1937. Claims use since Dec. 22, 1937.

BANISHEE—This in solid letters describing deodorant. Filed by Haines Products Co., Carey, O., March 4, 1938. Claims use since February, 1937.

COASTAL—This in solid letters describing agricultural insecticide. Filed by Coastal Chemical Co., Harlingen, Tex., Oct. 21, 1937. Claims use since May 10, 1937.

TREE-SAVER — This in semi-solid letters describing tree insecticide. Filed by Goulard & Olena, Inc., New York, Sept. 28, 1937. Claims use since May, 1936.

VEL-GLINT—This in solid letters describing shampoo. Filed by Pennsylvania Drug Co., New York, Dec. 15, 1937. Claims use since June 1, 1937.

ZEFER—This on circular reverse plate describing general cleaner. Filed by Zefer Mfg. Co., Denver, Dec. 21, 1937. Claims use since Aug. 3, 1937.

DOUBLE X FLOOR CLEANER—This on reverse plate in shape of a shield, describing floor cleaner. Filed by Schalk Chemical Co., Los Angeles, Dec. 27, 1937. Claims use since June 1, 1931.

CHIPSO WONDER FLAKES — This in solid letters describing soap flakes. No claim is made to the words "Flakes" or "Wonder" apart from the mark. Filed by Procter & Gamble Co., Cincinnati, Feb. 3, 1938. Claims use since Jan. 5, 1938.

NELLIE LOU — This in solid script describing cleaning paste. Filed by Nellie-Lou Corp., Norwalk, Conn., Feb. 9, 1938. Claims use since Feb. 2, 1938.

SHINIT—This on reverse plate in the shape of a half-circle, describing cleaning preparation. Filed by Seth Kimball, New York, Feb. 24, 1938. Claims use since June 1, 1937.

YORK SHIRE—This in script on ornamented, rectangular design describing shaving soap. Filed by Castilian Products Corp., Los Angeles, May 3, 1937. Claims use since Dec. 12, 1936.

SODORIN—This in solid letters describing sudless cleaning powder. Filed by D. Wroblewski & Co., Brooklyn, Oct. 6, 1937. Claims use since June 1, 1914.

Trade Marks Granted

354,867. Antiseptics. Tyler Laboratories, Inc., New York. Filed Aug. 5, 1936. Serial No. 381,857. Published Sept. 29, 1936. Class 6.

354,910. Polish. E. W. Bennett & Co., San Francisco. Filed Sept. 27, 1937. Serial No. 397,836. Published Dec. 14, 1937. Class 16.

354,923. Wax. Franklin Research Co., Philadelphia. Filed Oct. 13, 1937. Serial No. 398,428. Published Dec. 14, 1937. Class 16.

355,040. Laundry Cleaner. Hygienic Products Co., Canton, O. Filed April 5, 1937. Serial No. 390,959. Published Dec. 21, 1937. Class 6.

355,053. Preparation for Athlete's Foot. Yocum Laboratories, Inc., Chariton, Ia. Filed May 24, 1937. Serial No. 393,160. Published Nov. 2, 1937. Class 6.

355,054. Tooth Washer. John H. Wood Co., Philadelphia. Filed May 24, 1937. Serial No. 393,195. Published Dec. 21, 1937. Class 6.

355,056. Insecticides. Hercules Glue Co., San Francisco. Filed May 25, 1937. Serial No. 393,217. Published Dec. 28, 1937. Class 6.

355,060. Shoe Cleaners. Wilkey Laboratories, Inc., Chicago. Filed June 14, 1937. Serial No. 394,071. Published Dec. 28, 1937. Class 4.

355,066. Scouring Pads. F. J. Wuesthoff, Berkeley, Calif. Filed July 6, 1937. Serial No. 394,926. Published Dec. 28, 1937. Class 4.

355,076. Shampoo. Marinello Corp., New York. Filed July 23, 1937. Serial No. 395,582. Published Dec. 28, 1937. Class 6.

355,091. Preparation for Athlete's Foot. Frank Mirrer, Brooklyn. Filed Aug. 28, 1937. Serial No. 396,859. Published Dec. 28, 1937. Class 6.

355,093. Germicide. Mathieson Alkali Works, New York. Filed Aug. 31, 1937. Serial No. 396,961. Published Nov. 9, 1937. Class 6.

355,104. Germicides. Barrett Co., New York. Filed Sept. 7, 1937. Serial No. 397,172. Published Dec. 28, 1937. Class 6.

355,116. Soap. Walgreen Co., Chicago. Filed Sept. 11, 1937. Serial No. 397,350. Published Dec. 28, 1937. Class 4.

355,123. Cleaning Preparation. Bloomingdale Bros., New York. Filed Sept. 20, 1937. Serial No. 397,569. Published Dec. 28, 1937. Class 4.

355,178. Fungicides. Dye-Col Products, Inc., New York. Filed Oct. 16, 1937. Serial No. 398,569. Published Dec. 21, 1937. Class 6.

355,190. Water Softener. Franklin Simon & Co., New York. Filed Oct. 2, 1937. Serial No. 398,039. Published Dec. 28, 1937. Class 6.

355,191. Insecticide. Andrew Wilson, Inc., Springfield, N. J. Filed Oct. 2, 1937. Serial No. 398,070. Published Dec. 28, 1937. Class 6.

355,223. Shampoo. Laboratory Products, Memphis, Tenn. Filed Oct. 22, 1937. Serial No. 398,815. Published Dec. 21, 1937. Class 6.

355,224. Shampoo for Dogs. Laboratory Products, Memphis, Tenn. Filed Oct. 22, 1937. Serial No. 398,816. Published Dec. 21, 1937. Class 6.

355,264. Furniture Polish. Church Aid Society, Meadville, Pa. Filed Nov. 3, 1937. Serial No. 399,268. Published Dec. 28, 1937. Class 16.

355,319. Cleaning Powder. Super-X Cleanser Co., Berwyn, Ill. Filed Oct. 26, 1936. Serial No. 384,811. Published Jan. 12, 1937. Class 4.

355,333. Cleaning Preparation. A. S. Boyle Co., Jersey City,

(*Turn to Page* 74-C)

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FACTORIES: JERSEY CITY, N. J., NIAGARA FALLS, N. Y.

Raw Material Markets

(As of April 27, 1938)

NEW YORK — The trend of prices of raw materials for the soap industry continued downward in the period just closed. Consumers still maintained a hand-to-mouth purchasing policy and were disposed to hold aloof in view of the weakness in the market for securities, and discouraging reports concerning the condition of general business in this country, as well as disquieting developments in political affairs abroad. Fractional declines were registered in the miscellaneous list of fats and oils, including babassu oil, down 1/8c, linseed oil, down 1/2c to 1c, tallow, down 1/4c, and grease down 1/4c. Among the coal tar products, both cresylic acid and naphthalene flakes were quoted lower, and the same was true for lavender oil and Italian lemon oil in the list of essential oils.

OILS AND FATS

Coconut Oil

The market for crude coconut oil continued quiet in the period just ended. Consumers continued to remain indifferent in view of the downward trend of quotations for other fats and oils, and, notwithstanding the reported belief that they are carrying small supplies, preferred to remain out of the market. Preliminary figures issued during the period from an official source showed that imports of coconut oil between Jan. 1 to April 2 totaled 89,919,252 pounds, or 20.1 per cent of the allowable quota. By the close, crude coconut oil quotations had registered a net drop of 1/8c per pound. Babassu oil was also shaded 1/8c per pound in a quiet market, due, it was reported, to curtailed production caused by a lack of adequate supply of kernels.

Cottonseed Oil

Crude cottonseed oil enjoyed a fair amount of trading during the period just closed. However, domestic and foreign developments were of such a disturbing character that buyers, it was reported, were reluctant to add to their present commitments. Mills in some sections of the South were already said to have closed down for the season, with others preparing to do so in the near future. Prices closed at about the same levels as were reported for the previous period.

Olive Oil

Olive foots met with a fair demand during the period just ended. The purchases were for small quantities, however, intended for filling immediate requirements of consumers who were in need of fresh supplies. At the close, quotations had moved upward 1/4c per pound.

Tallow

Quotations on tallow moved downward this period 1/4c per pound. The market was reported to have a steady tone, but offerings were light. Trading was in small quantities only, for buyers purchasing for immediate needs. Large buyers in the soap industry still remained aloof from the market because of the uncertain condition of general business.

PERFUMING MATERIALS

Lavender Oil

A deflationary movement in the exchange value of the French franc, producing cheaper francs, was responsible for a general lowering of price schedules on lavender flower oil in the period just ended. The price on 50 per cent ester was quoted at $5 to $5.25 per pound; on 38 to 42 per cent ester, $3.75 to $4.25; on 35 to 38 per cent ester, $3 to $3.25; and on 30 to 32 per cent ester, $2.25 to $2.30. Spike lavender oil remained the same, but with the end of the Spanish civil war probably not far distant, a change in the price situation if that oil is said to be expected.

Lemon Oil

Quotations on Italian lemon oil were lowered to a basis of $2.90 to $3.90 per pound during this period. The reduction is said to reflect the unsettled situation in Italian circles. The consortium that had previously been reported has been called off for the time being. Also, it is considered unlikely, if and when a consortium is formed, that it will concern itself with this year's crop. California lemon oil was reported firm at $2.50 per pound.

MISCELLANEOUS

Coal Tar Chemicals

Lower prices for cresylic acid were quoted during the period. Quotation in some quarters were reported from 79c to 81c per gallon. In view of the recent trend of foreign quotations on imported cresylic acid, domestic manufacturers have dropped their quotations. Naphthalene flakes also moved lower due to in influx of foreign shipments of crude naphthalene, which tended to upset an already dull market. Quotations on refined naphthalene flakes were reduced 1/2c per pound.

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Cotton Oil Stocks

Stocks of crude cottonseed oil on hand in the United States as of March 31, 1938, totaled 163,846,863 pounds, as compared with 101,903,832 pounds on the same date in 1936.

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List Haitian Soapers

Soap manufacturers in Haiti have been listed by the U. S. Bureau of Foreign and Domestic Commerce. The lists are available to accredited American firms at 10c a copy.

—— ♦ ——

Linco Appoints Agency

Linco Products Co., Chicago, has appointed Albert Kircher Co., advertising agency of that city, to handle its campaign for "Linco" washing preparation.

KRANICH SOAPS

PURE POWDERED SOAPS

Castile, U.S.P. **Coconut, Pure** **White Neutral**
Palm, Pure **Castor, Pure**

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Complete line of Shampoos, Shampoo Bases, Liquid Soaps, Oil Soaps, Pine Scrub and Automobile Soap.

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RAW MATERIALS

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CARBON TETRACHLORIDE
CALCIUM CHLORIDE
CAUSTIC SODA
CAUSTIC POTASH
DYES
DISODIUM PHOSPHATE
GLAUBERS SALTS
GLYCERINE
METASILICATE
OXALIC ACID
POTASSIUM CARBONATE
SAL AMMONIAC
SALT
SAL SODA
SILICATE OF SODA
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ROSIN
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TANK
WAGONS

Raw Material Prices

(As of April 27, 1938)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .05¾	$ .06¼
Acid, Boric, bbls., 99½%	ton	95.00	105.00
Cresylic, drums	gal.	.79	.83
Low boiling grade	gal.	.87	.91
Oxalic, bbls.	lb.	.10¾	.12
Adeps Lanae, hydrous, bbls.	lb.	.16	.18
Anhydrous, bbls.	lb.	.17½	.19
Alcohol, Ethyl. U. S. P., bbls.	gal.	4.04	4.16
Complete Denat., SD 1, drums, ex.	gal.	.31	.33
Alum. Potash lump	lb.	.036	.039
Ammonia Water, 26°, drums	lb.	.02¼	.02½
Ammonium Carbonate, tech., bbls	lb.	.08	.12½
Bentonite 1, works	ton	—	16.00
Bentonite 2, works	ton	—	11.00
Bleaching Powder, drums	100 lb.	2.25	3.35
Borax, pd., cryst., bbls., kegs	ton	47.00	67.00
Carbon Tetrachloride, car lots	lb.	—	.05¼
L. C. L.	lb.	.05¾	.08½
Caustic, see Soda Caustic. Potash Caustic			
China Clay, filler	ton	10.00	25.00
Cresol, U. S. P., drums	lb.	.12	.12½
Creosote Oil	gal.	.13½	.14½
Feldspar (200 to 325 mesh)	ton	14.00	15.00
Formaldehyde, bbls.	lb.	.05¾	.06¼
Fullers Earth	ton	10.00	30.00
Glycerine, C. P., drums	lb.	.15½	.16
Dynamite. drums	lb.	.15½	.16
Saponification, drums	lb.	.10½	.11
Soap, lye, drums	lb.	.09½	.10
Hexalin, drums	lb.	—	.30
Kieselguhr, bags	ton	—	35.00
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	per bbl.	—	2.45
Mercury Bichloride, kegs	lb.	.91	1.05
Naphthalene, ref. flakes, bbls.	lb.	.06¾	.07
Nitrobenzene (Wyrhane) drums	lb.	.07¼	.09
Paradichlorbenzene, bbls., kegs	lb.	.12½	.15½
Petrolatum, bbls. (as to color)	lb.	.02¾	.08⅛
Phenol (Carbolic Acid), drums	lb.	.14½	.15½
Pine Oil, bbls.	gal.	.59	.65
Potash, Caustic, drums	lb.	.06¼	.06½
Flake	lb.	.07	.07¼
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.03½	.03¾
Pumice Stone, powder	100 lb.	3.00	4.00
Rosins (600 lb. bbls. gross for net)—			
Grade B to H, basis 280 lbs.	bbl.	4.70	6.00
Grade K to N	bbl.	6.00	6.35
Grade WG and X	bbl.	7.30	7.65
Wood FF Spot	bbl.	5.65	6.25
Rotten Stone, pwd. bbls.	lb.	.02½	.04½
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04⅛	.04⅜
Olive Castile, bars	lb.	.26	.35
Olive Castile, powder	lb.	.30	.35
Powdered White, Neutral	lb.	.19½	.21½
Olive Oil Foot, bars, 68-70%	lb.	.09	.09½
Green, U. S. P.	lb.	.08	.09½
Tallow Chips, 88%	lb.	.08¼	.08⅜
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.08	1.35
Car lots, in bulk	100 lb.	—	.90
Soda Caustic, cont., wks., solid	100 lb.	—	2.30
Flake	100 lb.	—	2.70
Liquid, tanks	100 lb.	—	1.95
Soda Sal., bbls.	100 lb.	$1.10	$1.30
Sodium Chloride (Salt)	ton	15.30	15.70
Sodium Fluoride, bbls.	lb.	.07¼	.08¾
Sodium Hydrosulphite, bbls.	lb.	.16	.17
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks.	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.22½	.29½
Triethanolamine	lb.	.20	.22
Trisodium Phosphate, bags, bbls.	lb.	.02	.03
Zinc Oxide, lead free	lb.	.06¼	.07¾
Zinc Stearate, bbls.	lb.	.20	.22

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.06½	—
Castor, No. 1, bbls.	lb.	.09¾	.10½
No. 3, bbls.	lb.	.09¼	.10
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	.03½	—
Tanks, Pacific Coast, futures	lb.	.03⅛	—
Fatty Acids	lb.	.09½	.10
Copra. bulk, coast	lb.	.0200	Nom.
Corn, tanks, mills	lb.	.07⅛	.07¼
Fatty Acids	lb.	.06	.06½
Cottonseed, crude, tanks, mill	lb.	—	.06⅞
PSY, futures	lb.	.07½	.07¾
Fatty Acids	lb.	.0635	.0735
Soap stock 60-62%	lb.	.02⅞	.03⅛
Soap stock 65%	lb.	.03⅞	.04⅛
Foots (50% basis)	lb.	.01⅜	.01½
Greases, choice white bbls., f.o.b.			
Chicago	lb.	.05⅜	Nom.
Yellow	lb.	.03⅞	.04⅛
House	lb.	.04⅛	.04⅜
Lard Oil.			
Extra, bbls.	lb.	—	.10½
Extra, No. 1, bbls.	lb.	—	.09¼
No. 2, bbls.	lb.	—	.08½
Linseed, raw, bbls.	lb.	.0950	.1010
Tanks, raw	lb.	.0890	.0910
Boiled, 5 bbl. lots	lb.	.1030	.1050
Oleo Oil, No. 1, bbls., N. Y.	lb.	.08½	.09
No. 2, bbls., N. Y.	lb.	—	.09
Olive, denatured, bbls., N. Y.	gal.	.90	.95
Foots bbls., N. Y.	lb.	.08¼	.08¾
Palm, shipment	lb.	.0360	Nom.
Palm Kernel, shipment	lb.	.0390	—
Red Oil, distilled, bbls.	lb.	.09⅝	.10⅝
Saponified, bbls.	lb.	.09⅝	.10⅝
Tanks	lb.	.08¾	.09¾
Sesame Oil, dms.	lb.	.10¼	—
Soya Bean, domestic tanks, crude	lb.	.0730	.0750
Stearic Acid,			
Double pressed	lb.	.11	.12
Triple pressed, bgs.	lb.	.13¾	.14¾
Stearine, oleo, bbls.	lb.	.06¼	.06½
Tallow, special, f.o.b. plant	lb.	.04⅝	—
City, ex. loose, f.o.b. plant	lb.	.05⅛	—
Tallow oils, acidless, tanks, N. Y.	lb.	.09	—
Bbls., c/l N. Y.	lb.	—	.09¼
Teaseed Oil, crude	lb.	.07¼	.07¾
Whale, refined	lb.	.0940	.0960

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Essential Oils

Almond, Bitter, U.S.P.	lb.	$2.25	$2.75
Bitter, F. F. P. A.	lb.	2.00	2.50
Sweet, cans	lb.	.65	.68
Anise, cans, U.S.P.	lb.	1.00	1.05
Bay tins		1.35	1.50
Bergamot, coppers	lb.	4.00	4.10
Artificial	lb.	1.25	1.30
Birch Tar, rect. tins	lb.	.65	.70
Crude, tins	lb.	.14	.17
Bois de Rose, Brazilian	lb.	1.55	1.60
Cayenne	lb.	1.50	1.75
Cade, cans	lb.	.55	.60
Cajeput, native, tins	lb.	.55	.60
Calamus, tins	lb.	3.75	4.00
Camphor, Sassy, drums	lb.	.17	.18
White, drums	lb.	.17	.18
Cananga, native, tins	lb.	1.40	1.45
Rectified, tins	lb.	2.00	2.05
Caraway Seed	lb.	1.90	2.00
Cassia, Redistilled, U.S.P.	lb.	1.05	1.10
Cedar Leaf, tins	lb.	.75	.80
Cedar Wood, light, drums	lb.	.28	.30
Citronella, Java, drums	lb.	.40	.42
Citronella, Ceylon, drums	lb.	.35	.35½
Clove, U.S.P., tins	lb.	.97	1.02
Eucalyptus, Austl., U.S.P., cans	lb.	.41	.43
Fennel, U. S. P., tins	lb.	1.20	1.30
Geranium, African, cans	lb.	3.50	4.50
Bourbon, tins	lb.	3.20	3.80
Turkish	lb.	2.05	2.75
Hemlock, tins	lb.	1.05	1.10
Lavender, U.S.P., tins	lb.	3.75	5.25
Spike, Spanish, cans	lb.	1.05	1.10
Lemon, Ital., U.S.P.	lb.	2.90	3.20
Cal.	lb.	2.50	—
Lemongrass, native, cans	lb.	.38	.40
Linaloe, Mex., cases	lb.	1.25	1.30
Nutmeg, U.S.P., tins	lb.	1.20	1.25
Orange, Sweet, W. Ind., tins	lb.	1.95	2.00
Italian cop	lb.	2.25	3.00
Distilled	lb.	—	.90
Cal.	lb.	1.50	1.75
Origanum, cans, tech	lb.	.90	1.60
Palmarosa	lb.	2.05	2.75
Patchouli	lb.	4.50	8.00
Pennyroyal, dom.	lb.	1.40	1.45
Imported	lb.	1.35	1.40
Peppermint, nat., cans	lb.	2.00	2.25
Redis., U.S.P., cans	lb.	2.20	2.45
Petitgrain, S. A., tins	lb.	1.05	1.10
Pine Needle, Siberian	lb.	1.02	1.05
Rose, Natural	oz.	5.25	22.50
Artificial	oz.	2.00	8.00
Rosemary, Spanish, tins	lb.	.56	.75
drums	lb.	.51	.70
Sandalwood, E. Ind., U.S.P.	lb.	5.20	5.25
Sassafras, U.S.P.	lb.	.90	1.05
Artificial, drums	lb.	.35	.36
Spearmint, U.S.P.	lb.	1.60	1.70
Thyme, red, U.S.P.	lb.	.85	1.25
White, U.S.P.	lb.	.85	1.45
Vetivert, Bourbon	lb.	4.35	16.50
Ylang Ylang, Bourbon	lb.	3.50	6.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.05	$1.45
Amyl Cinnamic Aldehyde	lb.	2.00	2.25
Anethol	lb.	1.25	1.30
Benzaldehyde, tech.	lb.	.60	.70
U. S. P.	lb.	.85	.95
Benzyl, Acetate	lb.	.44	.49
Alcohol	lb.	.63	.68
Citral	lb.	1.40	3.10
Citronellal	lb.	.75	.80
Citronellol	lb.	1.75	1.80
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	3.00	4.65
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	.50	.55
Eucalyptol, U. S. P.	lb.	.58	.60
Eugenol, U.S.P.	lb.	2.10	2.55
Geraniol, Domestic	lb.	.67	3.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	1.20	2.50
Heliotropin	lb.	1.80	2.20
Hydroxycitronellal	lb.	2.00	2.50
Indol, C. P.	oz.	2.00	2.13
Ionone	lb.	1.30	4.05
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	2.10	6.30
Linalyl Acetate	lb.	1.35	2.25
Menthol	lb.	3.00	3.10
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.10	2.30
Paracresol	lb.	4.50	6.00
Salicylate, U.S.P.	lb.	.40	.45
Musk Ambrette	lb.	3.25	3.65
Ketone	lb.	3.40	3.80
Xylene	lb.	1.00	1.25
Phenylactaldehyde	lb.	2.25	3.50
Phenylacetic Acid, 1 lb. bot.	lb.	1.85	3.25
Phenylethyl Alcohol, 1 lb. bot.	lb.	2.70	4.25
Rhodinol	lb.	7.60	8.60
Safrol	lb.	.50	.54
Terpineol, C. P., 1,000 lb. drs.	lb.	.23	.25
Cans	lb.	.25	.27
Terpinyl Acetate, 25 lb. cans	lb.	.77	1.00
Thymol, U.S.P.	lb.	1.50	1.55
Vanillin, U.S.P.	lb.	2.75	2.85
Yara Yara	lb.	1.25	1.50

Insecticide Materials

Insect Powder, bbls.	lb.	.23¾	.25¼
Concentrated Extract			
5 to 1	gal.	1.75	1.85
20 to 1	gal.	6.50	6.80
30 to 1	gal.	9.70	9.95
Derris, powder—4%	lb.	.33	.37
Derris, powder—5%	lb.	.39	.43
Cube, powder—4%	lb.	.23½	.28½
Cube, powder—5%	lb.	.28	.33

Gums

Arabic, Amb. Sts.	lb.	.10¼	.10¾
White, powdered	lb.	.13½	.14
Karaya, powdered No. 1	lb.	.14½	.28
Tragacanth, Aleppo, No. 1	lb.	2.75	3.00
Flake	lb.	.50	1.00

Waxes

Bees, white	lb.	.38	.39
African, bgs.	lb.	.24	.25½
Refined, yel.	lb.	.29	.32
Candelilla, bgs.	lb.	.14½	.15
Carnauba, No. 1	lb.	.38	.38½
No. 2 N. C.	lb.	.35½	.36
No. 3, chalky	lb.	.32½	.33
Ceresin, yellow	lb.	.08½	.11½
Paraffin ref. 125-130	lb.	.0445	.05

Crazy-Like a Fox

The men in the plant thought I was crazy when the first shipment of INDUSOIL was delivered to us. Through the use of this inexpensive fatty acid, they pictured us losing sales. In fact, they were thinking of calling in a doctor to examine me.

Since then, we've reordered INDUSOIL and it has proved an excellent substitute for more expensive oils, fats and fatty acids. Now, they're whistling a different tune, they say "Sure the Old Man's crazy—like a fox."

INDUSOIL

Excellent as a blend with red oil for textile soaps and can be used with red oil for most other applications required of red oil, including cutting oils, drawing compounds, soluble oils, pine scrubs, etc.

A blend of refined fatty acids with the following specifications:

AVERAGE QUALITY OF INDUSOIL	March 15, 1937
Specific Gravity 60°/60°F.	0.95-0.98
Viscosity (Saybolt)	
@ 100°F.	300-400 sec.
@ 210°F.	55- 65 sec.
Flash Point	350-385°F
Fire Point	410-430°F
Moisture	Practically None
Ash	Practically None
Completely Soluble in Petroleum Ether	
Acid No.	170-185
Saponification Value	170-185
Color (Rosin Scale)	G-I
Fatty Acid	55-65% Avg. about 60%
Rosin Acids	28-35% Avg. about 32%
Sterols	6-10% Avg. about 8%

LIQRO

A blend of crude pine fatty acids, with the following specifications:

Acid No. .....150 to 160 Fatty Acids ... 35 to 45%
Rosin Acids .. 40 to 50% Sterols ..... 15 to 20%

This material is available in large quantities both from our Covington, Va., mill and our new mill at Charleston, S. C.

Indicated uses are for asphalt emulsions, cutting oils, low priced soaps, and many other applications where a low price fat is a requirement.

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Production Section

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries.*

SOLVENT SOAPS

THE usual solvent soaps incorporate from 6 to 15 per cent of solvent, including emulsifier if the latter is solvent-like in character. This relatively small proportion of organic solvent does not give the soap properties of the solvent as such, but only increases the general cleaning action of the soap. The presence of the solvent increases the emulsifying power of the soap toward fat and dirt particles. The term "solvent soap" is not intended here to refer to dry-cleaning soaps, which are themselves used in an organic solvent. The soaps under discussion are those used in the usual washing process in aqueous solution.

Solvents incorporated in soap should be present in an extremely finely divided state, so that they will not form globules which collect and float on the surface of the wash water. The use of emulsifiers usually overcomes this tendency. Many of the modern emulsifying agents which might be used are protected by patent. Turkey-red oil is an exception and can be used as an illustration of any similar emulsifying agent. Equal parts of 100 per cent turkey-red oil and organic solvent are mixed and incorporated in the soap.

One of the patented products which would be particularly suitable for the purpose is a water-soluble hexalin preparation which has the emulsifying properties of turkey-red oil and the solvent properties of methyl hexalin. It dissolves in water in all proportions to give a clear solution. With such liquids as benzene, carbon tetrachloride, trichloroethylene, tetralin, dekalin, terpentine oil, etc., it gives a very fine emulsion and makes possible their incorporation in soaps, giving the latter a stronger cleansing action. Such soaps are particularly suitable for use against the type of soil that is high in fat or grease. Isopropyl alcohol is another good emulsifying agent. Glycol monoalkyl ether serves the same purpose and can be incorporated during or after saponification.

Anhydrous soaps hold solvents better than hydrated soaps. Water can be driven off by heating, in the presence of a high-boiling solvent. Also fatty acids may be saponified in the presence of a solvent such as carbon tetrachloride, with concentrated lye. Assisting agents in that case are aliphatic or aromatic alcohols, phenols, ketones, etc. Oxidized or blown oils are suitable as a base for making solvent soaps, or as additions to ordinary soaps, increasing the holding action of the latter on solvents.

Solvents which may be incorporated into soap advantageously include the following: naphta, decalin, tetralin, terpentine, dipentene, methylene chloride, trichlorethylene, carbon tetrachloride, dichlorethylene, chloroform, tetrachlorethane, isopropyl alcohol, ethyl acetate, amyl acetate, cyclohexanol (hexalin), methyl hexalin, ethylene dichloride, ethylene glycol monoethylester (cellosolve), and butylcellosolve. The boiling ranges of these solvents vary over a wide area. All of those containing combined chlorine are non-inflammable. Some of the liquids have a favorable action in emulsifying other solvents.

The incorporation of 6-10 per cent of solvent presents no special difficulties. Usually 3-4 per cent of emulsifier, on a basis of soap content, is necessary. This may itself be of a solvent nature, or it may be a sulfonated product such as turkey-red oil or a derivative of naphthenic acid. Hexalin and methyl hexalin are both solvents and emulsifiers. The following formulas are typical and may be modified by experimental procedures.

		Kg.
1.	Linseed oil	500
	Hexalin	200-300
	Caustic potash, 50°Be	199
	Water	1208
		Kg.
2.	Linseed oil fatty acids	500
	Methyl hexalin	750
	Caustic potash, 50°Be	208
	Water	292

The ingredients are heated by indirect steam with stirring until a clear solution is formed. The clear solution is then stirred into the water and the alkalinity tested.

Prepared soap can also be

used. For example, a preparation for textile uses is made by adding to a solution of 10 parts of Marseilles soap in 200 parts of water, 10.5 parts of hexalin or methyl hexalin. Such a soap lathers well, although too high proportions of hexalin would diminish lathering power.

Additional solvents may be incorporated as in the following:

	Kg.
1. Linseed Oil	184
Hexalin	275
Caustic potash, 50°Be	73.5
Water	387
Carbon tetrachloride	80

	Kg.
2. Coconut oil	51
Linseed oil	42
Hexalin	130
Caustic potash, 50°Be	42
Water	615
Carbon tetrachloride	120

Carbon tetrachloride can be replaced by other materials such as high-boiling distillates of petroleum.

A somewhat different soap intended to remove spots and stains, which will emulsify easily with water, is made from the following:

	Parts
Olein	30
Butyl cellosolve	4
Ethylene dichloride	14

These are mixed and are then stirred into a solution of 15.5 parts of triethanolamine in 120 parts of water. Both solutions should be at a temperature of about 45°C. (113°F.). At the end, 15 parts of isopropyl alcohol are added for clarification. The formulas are open to variations, but should always be tried out first on a small scale. A. Davidson. *Ole, Fette, Wachse, Seife, Kosmetik* (1938), No. 2, 1-5.

Anhydrous Subsilicate

A technically anhydrous sodium subsilicate is prepared by mixing together powdered silica and solid caustic alkali in such molecular proportions that the alkali oxide content of the mixture is not less than the silica content, and in the absence of sufficient water to dissolve a substantial portion of the caustic alkali present. The mixture is heated to a temperature below the fusion point of caustic alkali but sufficiently high to cause reaction between the silica and caustic alkali to form a subsilicate. The plastic mass first formed is stirred until a solid granular product is obtained, then heated at a temperature above 300°C. and below the melting point. The anhydrous alkali subsilicate is then formed. Pennsylvania Salt Manufacturing Co. Canadian Patent No. 372,340.

Efficiency of Wool Scouring

In order to determine the efficiency of the mill-cleaning process for raw or greasy wool, samples of commercially clean wool were extracted with ethyl ether, and a study of the composition of the extract made. The ether extract amounted to 0.66-0.84 per cent, based on the weight of dry wool samples. The composition of the ether extract was approximately the same, regardless of the method used to clean the wool. It consisted of 25.5-25.8 per cent of free fatty acids of equivalent weight 327.5; 0.1-2.4 per cent of combined fatty acids as soap; 1.9-2.0 per cent of water-soluble acids of equivalent weight of 254; and 72.7-70.1 per cent of esters of higher alcohols. This means that the composition corresponds to that of residual wool grease and that any oil used in processing is entirely removed in back-washing. Bertil A. Ryberg. *Am. Dyestuff Reporter* **27,** P180-3 (1938).

Lignosulfonic Acid Detection

Lignosulfonic acid can be detected either alone or in soaps and detergents by precipitation with trypaflavine (3, 6-dimethyl-10-methylacridinium chloride). When 3 cc. of a 0.5 per cent solution of the reagent was treated with 1 drop of diluted purified waste sulfite liquor containing a fraction of a milligram of lignosulfonic acid, a heavy precipitate was obtained. The test is nearly as sensitive in waste liquors chlorinated with bleaching liquors, as with unchlorinated solutions. In testing for lignosulfonic acid in soaps and other detergents, the fatty acids, aromatic alkylated sulfonates, aromatic sulfonic acids, and sulfonates derived from aliphatic alcohols, must be separated with aqueous sulfuric acid at 100°C., followed by cooling at 0°C, and filtration. The filtrate may then be tested with trypaflavine. August Noll. *Papier-Fabr.* **36,** (Tech. Tl.) 41-5 (1938); through Chem. Abs.

Canadian Bentonites

Canadian bentonites were investigated as refining and bleaching agents for a variety of industrially important fatty and petroleum oils, including peanut, cottonseed, coconut and palm oils; lard and beef tallow, and dry-cleaning solvents. The clays were chiefly from the 4 western provinces of Canada. Bentonite from the Morden, Manitoba, district possesses unusually high absorbent power, and in the activated condition its effect on all of the raw materials tested was much superior, within the limits of the laboratory test methods employed, to that of all other bentonites examined. Low silica to alumina ratio, and a high percentage of combined water are the outstanding characteristics of Morden bentonite, in comparison with absorbent clays from other sources. Wilfred Gallay. *Can. J. Research* **16B,** 6-34 (1938).

Rust Spot Removal

Rust can be removed from iron and steel vessels by means of a solution containing 10 per cent of oxalic acid and 10 per cent of hydrochloric acid. Rust spots on fabric are removed slowly with potassium or ammonium bifluoride. A concentrated solution of oxalic acid acts more quickly but may have a harmful effect on fabric and color. *Seifensieder-Ztg.* **65,** 153 (1938).

Foam Baths

A foam bath is made by the reaction of aluminum salts with soda ash in the presence of a foam-forming agent such as saponin, the amount of water used being such that it is completely retained in the foam prepared. Leo Lowenstein. French Patent No. 818,325.

Hexadecenoic Acid

Hexadecenoic acid is present to the extent of about 1 per cent of the total fatty acids in peanut, olive, teaseed, cottonseed and palm oils, and about 2 per cent in soybean oil. The observations indicate that hexadecenoic acid is present in vegetable seed and fruit-coat fats, although only in traces; the acid would therefore appear to occur in all classes of natural fats, becoming, however, a major component only in fats from aquatic flora and fauna. T. P. Hilditch and H. Jasperson. *J. Soc. Chem. Ind.* **57,** 84-7 (1938).

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Seeds High in Fat

Seeds of the royal palm, *Roystonea regia,* are high in fat content. Mature trees produce 70-100 pounds of fatty seeds which are now largely wasted. On a fresh-weight basis, the percentage composition for immature, easily crushed seed is moisture 69.92, dry matter 60.08, crude fat 2.08; for mature, yellow, hard nuts the composition is moisture 56.88, dry matter 43.12, and crude fat 8.33 per cent. J. O. Carrero. *Puerto Rico Agr. Expt. Sta., Ann. Rept.* 88-9 (1937); through Chem. Abs.

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Glycerine Determination

Of two new volumetric methods described for the determination of glycerine in aqueous solution, one depends on oxidation with ceric sulfate in boiling solution, when one molecule of glycerine reacts with four atoms of oxygen. In the other method, glycerine is oxidized to carbon dioxide and water by boiling with an alkaline solution of bromine. R. Cuthill and C. Atkins. *J. Soc. Chem. Ind.* **57,** 89-91 (1938).

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New Seed Oil

The oil obtained by the extraction of the seeds of *Cleome pentaphylla Linn* with benzene showed the following constants: d_{20} 0.9268, n_{25} 1.4653, acid value 36.5 solidification point —12°C., saponification value 194, iodine value 122.6, and unsaponifiable matter 2.08 per cent. The mixed fatty acids were separated and resolved into saturated acids 22.4 per cent, iodine value 1.7, mean molecular weight 259.8, and unsaturated acids 77.6 per cent, iodine value 139.5 and mean molecular weight 280.3. Ram Nath Misra and S. Dutt. *Proc. Natl. Inst. Sci. India* **3,** 325-9; through Chem. Abs.

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Detecting Mineral Oil

One or two drops of the sample oil are transferred to the bottom of a test tube, about 1 cc. of 95 per cent alcohol added and the mixture warmed. Add 1 cc. of alcoholic potassium hydroxide solution, insert a cork stopper fitted with a long glass tube to act as condenser, and heat on the water bath for 15 minutes, for saponification to occur. Cool to room temperature, add an alcohol solution of red, fat-soluble alkannin until a strong blue color appears. Add about 5 drops of an alcoholic solution of Sudan red. Wash the tube down with distilled water until the tube is nearly full. After a little time a red ring will form above the blue solution, if mineral oil is present. Traces of mineral oil may be shown by the formation of red droplets. The reaction shows up better if after dilution, the mixture is cooled with ice and then centrifuged. With difficultly saponifiable oils it may be necessary to reflux for ½-1 hour. H. M. Ulrich. *Fette und Seifen* **44,** 426 (1937).

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Japanese Nut Oil

The ether extract of Japanese nut oil (*Juglans sieboldiana*) had the following constants: d_4^{15} 0.9241, n 1.4770, acid value 1.4, Wijs iodine value 149.7, saponification value 191.0 and unsaponifiable matter 0.55 per cent. The mixture of acids consisted of 6.6 per cent of solid acids and 93.4 per cent of liquid. The former contained palmitic and stearic acids; the latter consisted of 22.7 per cent of oleic, 62.1 of linoleic and 8.6 of linolenic acid. Sei-ichi Ueno and Y. Nishikawa. *J. Soc. Chem. Ind., Japan* **40,** Suppl. binding 313-4 (1937).

Salt Content of Soap

The content of common salt in a toilet soap should not exceed 0.4 per cent, which is roughly equivalent to a salt content in the freshly salted-out curd soap of 0.3-0.35 per cent. A simple modification of Bennet's procedure for determining salt is recommended: Dissolve 4-6 grams of soap in 150 cc. of boiling distilled water. Precipitate soap and soluble alkaline fillers by adding 25 cc. of a 20 per cent solution of crystalline magnesium nitrate. The end point is reached on development of a reddish brown color. If the mass is kept at the boil for about 10 minutes after precipitation with magnesium nitrate solution, the precipitate agglomerates and sticks to the sides of the flask, when titration with a silver solution can be performed without filtering. Potassium chloride in liquid soaps may be estimated in the same way. J. Davidsohn. *Soap, Perfumery and Cosmetics* **11,** 133 (1938).

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Oleic Acid Determination

A rapid determination of combined oleic acid in soap solution is based on the reaction of two molecules of ammonium oleate with one molecule of barium nitrate to give one molecule of barium oleate and two molecules of ammonium nitrate. Shake to foaming 25 cc. of the soap solution in a dry, glass-stoppered flask and titrate with 0.1 *N* barium nitrate solution. After each addition of 2-3 drops of barium nitrate, shake well, let stand for a few seconds, and continue with the titration until the foaming has stopped. V. A. Gruzdev and B. L. Zal'tsman. *Org. Chem. Ind. (U.S.S.R.)* **4,** No. 13, 38; through Chem. Abs.

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Treating Insoluble Soaps

Soaps insoluble in water are treated with compounds whose alkali salts form true alkaline solutions and which form soluble salts with the metal of the insoluble soap (e. g., phenols, naphthols and their derivatives and homologs). Joachim Leimdörfer. Hungarian Patent No. 116,-367; through Chem. Abs.

Products and Processes

French Fatty Alcohols

A new series of fatty alcohols and their derivatives has been brought out in France by Lambert Riviere. The substances are obtained by hydrogenation carried out at a somewhat lower temperature and pressure than usual, by the use of special catalysts. Tapol O is obtained by the selective hydrogenation of twice distilled oleic acid. Tapol C is produced by the hydrogenation of technically pure white stearic acid, from which lactones and other impurities have been previously removed so as to avoid a disagreeable odor. Tapol L contains all the alcohols corresponding to the fatty acids of coconut oil, but the proportion of C_{12} alcohols is particularly high. The first two products are used in cosmetic creams, the last product for making other compounds. *Manufacturing Perfumer* **3**, 80 (1938).

Apparatus for Soap Making

A special apparatus for carrying out saponification of fatty acids is so constructed that the fatty acids and the caustic solution or other saponifying agent meet in the form of jets in the reaction vessel. Louis A. Rouget and Jean D. Rouget. French Patent No. 818,348.

Soap Composition

In the manufacture of milled soap or soap flakes, the soap is mixed with a paste of partly degraded starch prepared by kneading starch in the cold with a solution of sodium silicate containing sugar. Carl Stiepel. German Patent No. 654,460.

Rapid Saponification

Soap can be made rapidly without any heating by finely emulsifying the fats and keeping them in an emulsified form in a suitable apparatus, where they are treated with an accelerating preparation, which is also an oxidizer. Water is then added and the whole subjected to the action of concentrated lye. The soap is formed immediately and then poured into molds or other receivers in which it sets, and in which the reaction is completed. Any suitable emulsifying apparatus may be used. As accelerator and oxidizer, sodium peroxide is used. The concentration of caustic is 40-45 per cent. The soap as it passes from the emulsifying apparatus averages 94-6 per cent. Water may be added to reduce this to 72 per cent or to any other desired soap content.

To obtain a more thorough refining of the soap, it is melted in an autoclave under a pressure of about 4 kilos, and then cast into molds, or pulverized to make flakes or powder, by means of simple air atomizing. If instead of using cold lye, the latter is warmed to about 40°C., the soap when cooling sets as a porous, very voluminous mass, particularly adapted for preparation of soap powders. Robert G. Gerber. British Patent No. 18,247.

Free Lathering Soaps

The lathering capacity of soap is improved by incorporating with the soap a condensation product of a higher aliphatic acid with an albumin degradation product of high molecular weight. The method is particularly useful in the manufacture of shaving soaps or creams. Chemische Fabrik Grünau Landshoff & Meyer A.G. German Patent No. 654,166.

Silver Germicide Soaps

When silver is used in soap as a germicide, it should be present in metallic form or as an insoluble silver compound, in order to avoid discoloration. The disinfecting action can be enhanced by activating treatment with oxygen-evolving substances such as hydrogen peroxide or permanganate. In one method of preparation, soap made in the normal way is flaked, dried and rubbed to a fine powder. To the latter is added the desired quantity of finely-sieved silver chloride and sodium perborate which has been dehydrated if necessary. The whole is well mixed. The powder finally molded under high pressure, about 100 atmospheres. A. Foulon. *Manufacturing Perfumer* **3**, 77-8 (1938).

Sulfur Soap

Medicinal soap containing sulfur is made with a product containing organic sulfur compounds:

Soap stock, superfatted	100 kg.
Triethanolamine stearate	5
Organic sulfur-oil paste	1-2

The dry soap stock is mixed in a mixing machine with a suitable superfatting agent, neutralized and triethanolamine soap mixed in. The sulfur paste is added last and mixed. The latter has a yellow to brown color. Color should therefore be added to the soap to make it either definitely brown or yellow. The yellow color will emphasize the idea of the presence of sulfur. If perfume is added it should be one suggestive of a medicinal character. Ekmann. *Riechtoffindustrie and Kosmetik* **13**, 12-15 (1938).

Shaving Cream

Two of the newer formulas for shaving cream follow, numer 1 being the lather type, number 2 nonlathering.

		Parts
1.	Stearin	120
	Coconut oil	20
	Lecithin	5
	Caustic potash	50
	Tylose paste	30
	Lamepone PhA	14
	Soft water	211
		Per cent
2.	Diglycol stearate	14
	Triple pressed stearin	6
	Paraffin oil	1
	Diethylene glycol	5
	Distilled water	74

Kleimü. *Deutsche Parfümerie-Ztg.* **24**, 87-8 (1938).

Cleansing Pad

A combined metal-wool and soap-cleaning pad consists of a body of metal wool with soap distributed throughout its extent in two distinct portions, one portion entirely en-

closing and surrounding the other to provide an inner and an outer portion. Most of the soap is in the form of a coating and so leaves voids between the coated fibers. The soap coatings in the inner portion are appreciably thicker, in order to provide a greater density of soap within the pad and hence a reserve soap supply for the outer portion of the pad. The S.O.S. Co. Canadian Patent No. 372,494.

Fat Splitting

Animal and vegetable fats are dissociated continuously into fatty acid and glycerine without the addition of chemical products, in three zones of pressure, the pressure decreasing in each successive zone. Erich Hoffmann. French Patent No. 817,886.

Dairy Bottle Cleaning

Dairy detergents have sterilizing effects. In a bottle-washing system, the degree of sterilization will depend on the efficiency of the detergent, the concentration, the period of contact between solution and bottles, and the temperature. Sterilizing efficiency may be increased by the addition of sodium salts of the acids of the $C_{20}H_{30}O_2$ series. They have germicidal power and also increase the germicidal action of alkalies, and the wetting power of the compounds with which used. H. A. H. Crowther, *Dairy Inds.* **3**, 15-17 (1938).

Alkalinity of Dairy Detergents

The various alkaline salts, alone or mixed with caustic soda, serve as dairy detergents. Caustic soda is not used alone because of its poor rinsibility. This is improved when the caustic is mixed with other alkaline materials. Only the alkalinity titrated with phenolphthalein is of value for detergency. An alkalinity equivalent to that of a 0.5 per cent solution of caustic soda, calculated from the phenolphthalein titration, gives good results for bottle washing when the temperature at which the solution is used is 130° F. A. T. R. Mattick and W. A. Hoy. Dairy Inds. 3, 13-14. (1938).

Wetting Agent

Amides of unsaturated fatty acids derived from primary aromatic amines of which at least one position ortho to the amino group is occupied, are sulfonated. Examples are the sulfonated products of *o*-toluidide and *o*-anisidide or 2.6-dimethylanilide of oleic acid. I. G. Farbenind. A.-T. French Patent No. 816,667.

Dry Sulfated Alcohols

Neutralized sulfated or sulfonated higher alcohols are produced in dry form by rapidly heating and then rapidly cooling the sulfated products of fatty alcohol mixtures in a finely divided form. Am. Hyalsol Corp. Canadian Patent No. 372,884.

Cleaning Fluid

A cleaning fluid is made by mixing approximately 8 fluid ounces of diethylene glycol with water to make about 1 gallon, adding perfume and dyestuff to suit, and a small quantity of alcohol. Ernest F. Dixon. Canadian Patent No. 372,703.

Sulfonate Spreading Agents

The sodium salts of water-soluble petroleum oil sulfonates, possesses marked wetting and spreading properties when used in insecticidal spray materials. At a concentration of 1:1600 in water it does not damage the foliage of many economic plants, and it is compatible with the commonly used insecticides and fungicides. In cube root sprays it gave increased control of potato flea beetle and onion thrips. G. L. Walker. *J. Econ. Entomol.* **30**, 962-7.

Brushless Shaving Cream

Brushless shaving cream consist of 5-30 per cent of a plastic emulsion of oleaginous material, 50-80 of water, 2-13 of soap, and 0.5-5 per cent of a chemical compound other than soap, having oleophilic and hydrophilic groups in the molecule, the oleophilic groups comprising a chain of not less than 8 carbon atoms. The soap may be formed *in situ* by use of triethanolamine or caustic alkali. Glycerine, glycol, perfumes and antiseptics may also be added. Wolf Kritchevsky. British Patent No. 470,918.

Animal Washing Agent

A detergent for washing animals contains a reaction product of a mineral acid such as sulfuric or phosphoric acid with a high molecular-weight alcohol or a salt of such a compound, together with colloidal mineral substances and a binder. An example contains the sodium sulfonate of cetyl alcohol, colloidal kaolin and gum tragacanth. Ignaz Reichstein. French Patent No. 819,633.

Cleaner and Disinfectant

Compounds of the formula RXR^1, where R is an aromatic radical containing an OH group, X is a carbonyl or sulfonyl group, R^1 is an aliphatic radical with at least 5 carbon atoms,—are used as cleaning and preserving agents having a disinfectant action in an alkaline medium. An example is a 4-hydroxy-3-methylphenyl undecyl ketone. Henkel & Cie. G.m.b.H. French Patent No. 816,843.

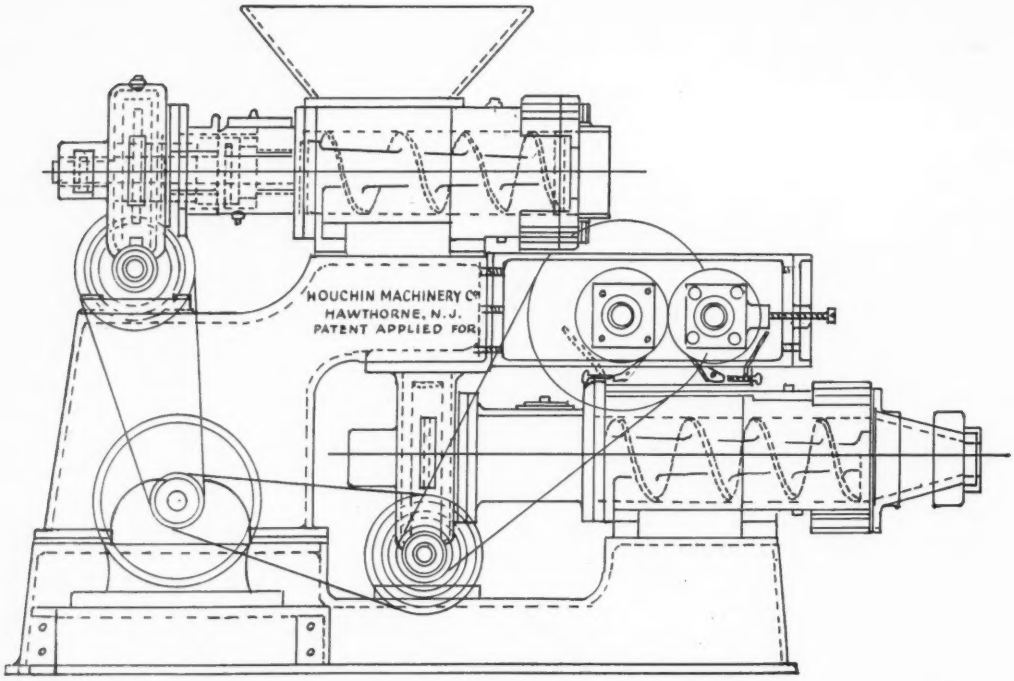
Dry-cleaning Procedure

A continuous process of dry cleaning is with the use of an organic solvent containing a vegetable oil and a wax. The fabric is thus cleaned and rendered substantially water-repellent. A filter aid is then added to the solvent, which is filtered until free from soil. A small quantity of water is dispersed through the solvent, and the circulating and filtering steps continued until the water is substantially removed from the solvent. A. E. Hatfield. Canadian Patent No. 370,466.

Cellulose Derivatives

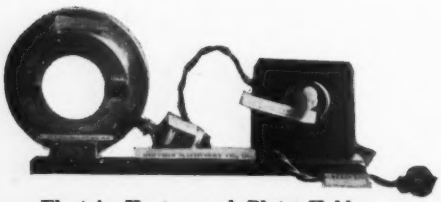
Alkali compounds of cellulose or its derivatives are caused to react with unsaturated sulfonic acids such as ethenesulfonic acid to give products which may be used as emulsifying, cleansing and sizing agents. Kalle & Co. A.-G. French Patent No. 817,879.

HOUCHIN MACHINERY CO., INC. HAWTHORNE, N. J.

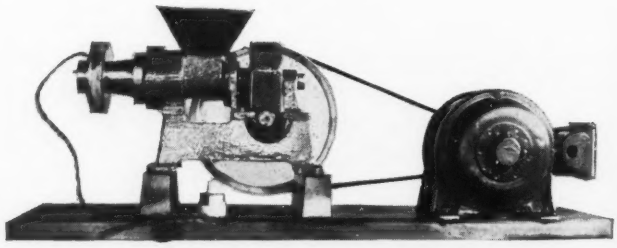


COMBINATION PLODDERS
With Double Head and Milling Attachment With Motor

Soap passing through the first time produces ribbons of soap. Second passing produces a fine finished, well compressed bar of Soap. For the second passing, remove Short Head on Second Plodder, bring Long Finishing Head in place. This Head is fitted with our Electric Heater and Plate Holder. A small stream of water passing through Plodder Cylinders and Rolls of Mill keeps the Soap cool, preventing the Soap from blistering. There is no dropping of Soap. The machine is very easily cleaned. It is excellent for short runs of Soap and saves Horse-Power.



Electric Heater and Plate Holder
By using this unit instead of steam, gas or lamp a uniform heat can be maintained. No more blistered soap. Made to fit all Plodders.



Laboratory Plodder, complete with Motor, Electric Heater, and Plate Holder.

New Patents

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Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine and Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 2,108,990, Continuous Splitting of Fats or Oils, Patented February 22, 1938 by Emil Morlock, Frankfort-on-the-Main, Germany, assignor to American Lurgi Corporation, New York, N. Y. Apparatus for the continuous splitting of fats or oils comprising a horizontal autoclave of elongated form, intake and outlet openings at opposite ends of the autoclave to introduce liquid material to be treated thereinto and to remove treated material therefrom, a shaft rotatably mounted in the autoclave in the direction of the longitudinal axis thereof, a plurality of stirring devices spacedly mounted on the shaft, each of the stirring devices including a pump-like rotor body having intake ports in the central portion thereof and outlet ports in the peripheral portion thereof and being capable of causing powerful circulation of the material along a plurality of circular paths in a vertical plane, partition walls between the stirring devices restraining the material against displacement in the horizontal direction, and relatively small openings in the partition walls for transferring small quantities of liquid from each stirring device to the subsequent one in accordance with the admission of fresh liquid to be treated to the autoclave.

No. 2,112,812, Soap Dispensing Apparatus, Patented March 29, 1938 by George B. Kaplan, New York, N. Y., assignor to Soapitor Company, Inc., New York, N. Y. A soap dispensing machine comprising an annular casing formed integrally at one end with a closure wall having a flange extending laterally of the casing and apertured to receive fastening devices, the wall also being formed centrally thereof with a thickened area apertured to form a cylindrical bearing for a shaft, a threaded shaft within the cylindrical bearing, means carried by the shaft for rotating a cake of soap and for positively feeding the soap in a direction reverse to that of the closure wall, a cover member for the end of the casing opposite the wall, means for latching the cover member to the casing, and a preformed cutter member cast with and forming a part of the wall of the cover member having opposed angularly extending marginal flanges imbedded in the wall and one of the flanges extending in a line transversely of the line of pressure on the cutter member by the feeding of the soap, the cutter being formed with discharge openings for ground soap.

No. 2,111,581, Spray Oils, Patented March 22, 1938 by Ulric B. Bray, Palos Verdes Estates, Calif., assignor to Union Oil Company of California, Los Angeles, Calif. A method for preparing a spray oil comprising extracting a mineral oil distillate fraction with a solvent to remove substantially all constituents soluble in liquid sulphur dioxide, separating the extract from the raffinate, treating the extract to remove therefrom substantially all constituents soluble in sulphuric acid under mild conditions in the order of 95% to 98% concentration at a temperature of about 60° to 90°F., and separating the sulphuric acid-removable constituents from the resultant raffinate.

No. 2,111,879, Insecticide, Patented March 22, 1938 by Donald L. Vivian and Herbert L. J. Haller, Washington, D. C.; dedicated to the free use of the Public in the Territory of the United States of America. An insecticide comprising a compound of the general formula: $R_1—N=N—R_2—(NH_2)$ where R_1 and R_2 denote interchangeable aryl nuclei, R_2 being a single benzene nucleus and R_2 a naphthyl nucleus.

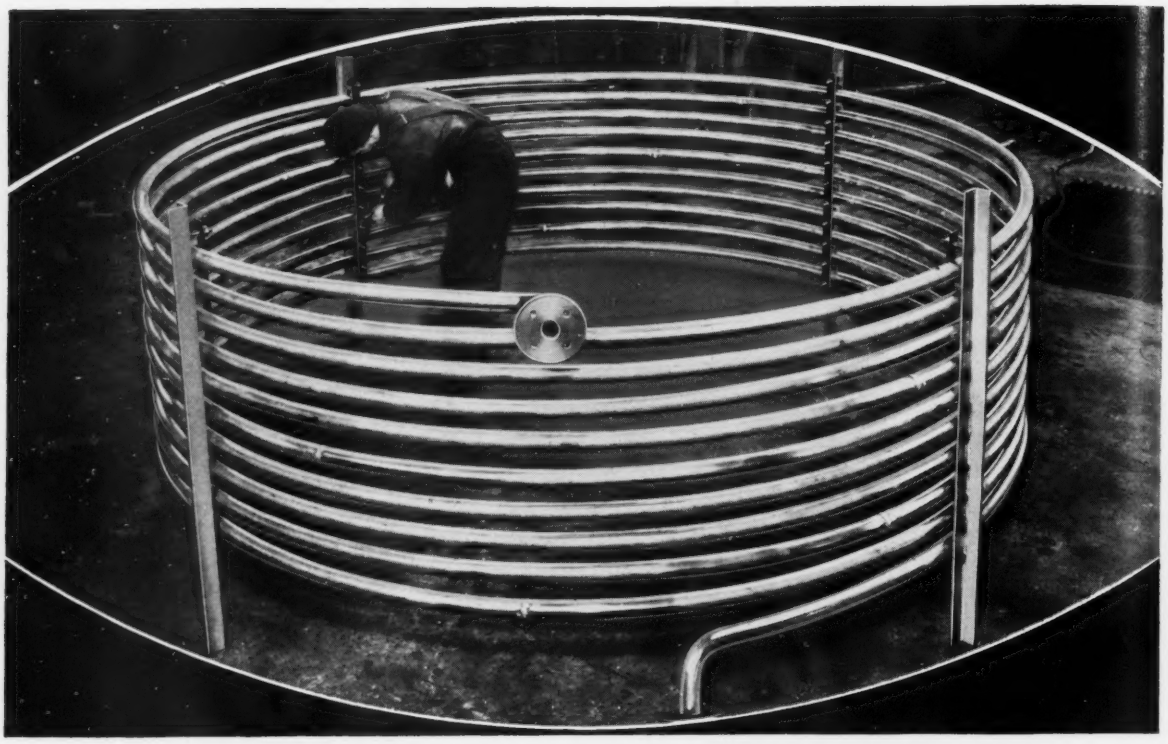
No. 2,111,907, Grease Composition, Patented March 22, 1938 by John C. Zimmer, Elizabeth, N. J., and Arnold J. Morway, Jackson Heights, Long Island, N. Y., assignors to Standard Oil Development Company. A solid lubricant, comprising a major proportion of lubricating oil, a lime soap and at least 15% of petrolatum whereby bleeding or sweating of the oil is prevented.

No. 2,112,129, Organic Mercury Compounds, Patented March 22, 1938 by Carl N. Andersen, Wellesley Hills, Mass., assignor to Lever Bros., Company. The method of preparing aromatic mercury salts, which comprises reacting a non-ionizable organic compound, capable of forming an acid upon hydrolysis, with an aromatic mercury compound selected from the group consisting of the soluble aromatic mercury hydroxides and the soluble aromatic mercury salts of soluble acids, in which mercury is directly attached by one of its valences to the negative group in the compound and attached by its other valence to a nuclear carbon of an aromatic structure in which none of the carbon atoms has direct linkage with any element other than hydrogen, carbon and mercury, in the presence of water, whereby the aromatic mercury radical becomes attached to an acid radical to form the corresponding aromatic mercury salt.

No. 2,112,688, Fly Spray, Patented March 29, 1938 by Euclid W. Bousquet, Wilmington, and Paul L. Salzberg, Edge Moor, Del., assignors, by mesne assignments, to E. I. du Pont de Nemours & Company, Wilmington, Del. A fly spray comprising an aliphatic ester of the formula (CNS)—R, in which R is an aliphatic radical of at least 6 carbon atoms, the fly spray being characterized by a high paralytic and a high lethal effect, the fly spray being further characterized in that if the radical R contains a number of carbon atoms different from 10, there is also present in the fly spray a substantial amount of another ester of the formula (CNS)—R, in which the radical R contains a different number of carbon atoms, and if the radical of the first ester contains less than 10 carbon atoms, the radical of the other ester contains at least 10 carbon atoms, and if the radical of the first ester contains more than 10 carbon atoms the radical of the other ester contains not more than 10 carbon atoms, the mean molecular weight of aliphatic ester being about 185 to 213.

No. 2,112,275, Saponification of Cellulose Esters, Patented March 29, 1938 by Henry Dreyfus, London, England. Process of saponifying filaments, threads, ribbons and like materials composed substantially of organic esters of cellulose comprising treating the same with a bath containing an alkaline saponifying agent and small quantities of a salt of the agent with an aromatic substance of weakly acid reaction selected from the group consisting of phenols and carboxylic acids.

Split Your FATS...

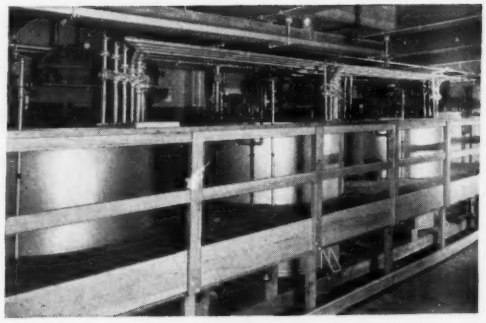


...*Not your* PROFITS

Monel ends rust and corrosion in equipment for fatty acid splitting and oil sulfonation

(Above) *Monel heating coil fabricated from 1-1/4" IPS seamless pipe 288 lin. feet for use in fatty acid saponifier. All tube connections are welded. Fabricated by Cornell & Underhill, 1300 Jefferson St., Hoboken, N. J. to design by Allen Porter Lee, Inc., Chemical Engineers, 136 Liberty Street, New York, N. Y.*

(Right) *Oil sulfonation, neutralizing and washing equipment of Monel in use at the plant of a well-known manufacturer of textile oils and specialties.*



Monel* equipment for fat splitting and sulfonation prevents contamination because of its resistance to corrosion, and years of plant experience have proved the economy of Monel. In straight sulfuric acid fat splitting or in the Twitchell Process, Monel guards the uniformity and purity of the products.

Since Monel is highly resistant to sulfuric acid, it readily solves the corrosion problem encountered in sulfonating animal and vegetable oils. Sulfonated oils produced in Monel equipment are pure, clear, and free from undesirable metallic contamination.

In addition to providing chemical resistance, Monel is strong and tough yet readily fabricated.

For further information, write for "Summary of Corrosion Data on Fat Processing and Sulfonation".

(Left) *Monel tank with dished bottom for acid treatment of fats. The tank was built of 1/8" Monel sheet and is 10' diameter by 7' 6" high. Welded construction by the Thornton Company, Cleveland, Ohio.*

"The Use of Nickel Alloys in the Processing and Distillation of Fatty Acids" (P. I. Q. Vol. 1, No. 4), and "Modern Trends in Sulfonation Equipment" (P. I. Q. Vol. 2, No. 3). Address:

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street **New York, N. Y.**

INCO MONEL **MONEL**

*Monel is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. This alloy is mined, smelted, refined, rolled and marketed solely by International Nickel.

No. 2,112,381, Parasiticidal Compositions, Patented March 29, 1938 by Paul L. Salzberg, Wilmington, Del., assignor, by mesne assignments, to E. I. du Pont de Nemours & Company, Wilmington, Del. A parasiticidal composition stabilized against atmospheric inactivation comprising as the active parasiticidal ingredient a thio-diarylamine and an antioxidant which inhibits the discoloration of thio-diphenylamine toward the short wave length of the spectrum when ferric chloride is added in a small amount to an acetone solution of thio-diphenylamine containing a small amount of the antioxidant, the antioxidant being present in such an amount as to retard atmospheric inactivation of the thio-diarylamine.

No. 2,110,608, Insecticides, Patented March 8, 1938 by Warren Moore, Richmond, and Robert B. Arnold, Henrico County, Va., assignors to Tobacco By-Products and Chemical Corporation, Louisville, Ky. An insecticide material consisting of the reaction products of nicotine and a readily water soluble petroleum hydrocarbon-sulphonate of ammonium.

No. 2,110,614, Insecticide, Patented March 8, 1938 by Donald L. Vivian and Herbert L. Haller, Washington, D. C.; dedicated to the free use of the People of the United States. An insecticide containing as its essential active ingredient phenazine.

No. 2,110,896, Insecticide, Patented March 15, 1938 by Donald L. Vivian and Herbert L. J. Haller, Washington, D. C.; dedicated to the free use of the Public in the territory of the United States of America. An insecticide comprising a compound of the general formula: $CH_3—R_1—N=N—R_2—OH$ where R_1 and R_2 denote interchangeable homocyclic aryl nuclei, R_1 being a single benzene ring and R_2 a naphthyl nucleus.

No. 2,110,897, Insecticide, Patented March 15, 1938 by Donald L. Vivian and Herbert L. J. Haller, Washington, D. C.; dedicated to the free use of the Public in the territory of the United States of America. An insecticide comprising a compound of the general formula: $R—N=N—R_1—(OH)$ where R and R_1 denote interchangeable homocyclic aryl nuclei, R being a single benzine ring and R_1 a naphthyl nucleus.

Fat and Oil Spoilage

Factors leading to spoilage of fats and oils include physical agencies such as heat and light, and chemical agencies such as air and moisture. Metals and enzymes act as catalysts in promoting the changes. There are four different types of spoilage but these are not always clear-cut and are apt to merge into each other, although giving the impression of a homogeneous process of decomposition.

Souring. Animal fats undergo souring or rapid hydrolysis in the presence of flesh and tissue residues. Production of free fatty acids in oil seeds is brought about by enzymes. In olive seed the process may proceed until a 70 per cent free fatty acid content is present. The oil in palm kernels likewise splits up with comparative rapidity in the seed. Such enzyme action is destroyed by heating the seed. Under atmospheric influences soybean oil behaves like a blown or oxidized oil. Heat treatment of soybeans destroys the enzymes and the subsequently extracted oil behaves normally. Soaps may also undergo souring, particularly the base soaps used in the production of toilet soaps.

Tallowing. Tallowing of fats may be considered to lead to the formation of C_6 to C_{10} fatty acids. Hydroxy fatty acids may also be formed by reaction at a double bond. This form of rancidity is marked by the influence of oxygen and light.

Ketone Formation. Ketones are mainly produced from saturated fatty acids by the action of heat, light and traces of metals. Oxygen accelerates the process, but its presence is not essential, nor is that of micro-organisms. It may be said that all fats tend to produce ketones on exposure to light. Although light is mainly responsible for ketone rancidity, unsaturated whale oil rapidly becomes ketonic in the dark. The change proceeds much more slowly in hardened whale oil. Ketones in soaps and fats can be detected by the red color given with salicylic aldehyde.

Aldehyde Formation. Unsaturated acids or their glycerides decompose under the influence of light, heat, air and traces of metals to form aldehydes, either free, or combined as epihydrin aldehyde. Free aldehydes are detected by the red color with fuchsin sulfurous acid. Combined aldehyde must first be liberated with acid, when it can be recognized by the violet color with alcoholic or ethereal phoroglucinol solution. The aldehyde occurring in combined form may be regarded as the oxide of acrolein. Materials developing free aldehyde include coconut oil, palm kernel oil, soybean oil, peanut oil, lauric acid, caprylic acid etc. Heat-treatment suppresses the reaction but only in the presence of gaseous oxygen. Monica Von Rathlef. *Manufacturing Perfumer* **3,** 73-5 (1938).

Oxides in Fat Purification

Oils and fats or their fatty acids are purified by adding at as low a temperature as possible, a small amount of a finely divided metal oxide or salt and agitating until a colloidal complex is formed between the metals and the impurities. The stirring is continued with the addition of a small amount of a mineral acid. The mixture is heated to about 90° C. and the complexes formed are removed by a decolorizing agent followed by filtering. This method is preceded by the usual purifications. Eugene Kellens. French Patent No. 815,762.

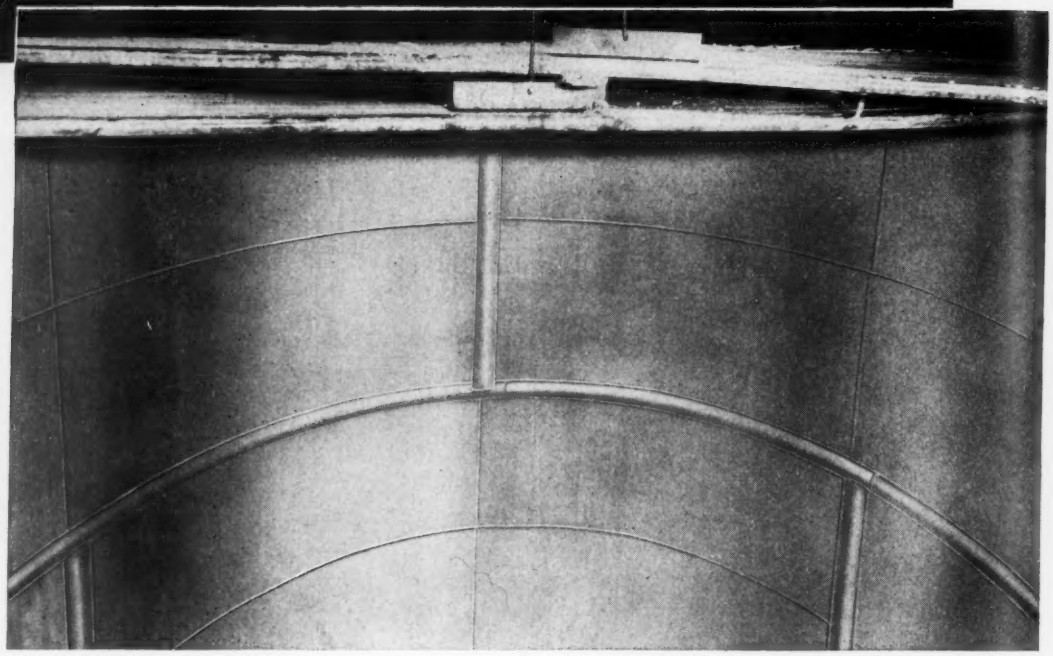
Surface Activity

A study of the surface activity and structure of the adsorption layer of multivalent soaps shows that of the calcium, magnesium and aluminum oleates and stearates, the aluminum salts have ¼ to ⅛ as much surface activity as calcium and magnesium salts. The latter two have about the same. Oleates are slightly more active than stearates. The areas occupied by the soap molecules are respectively, calcium soaps, 50 Angstrom units, magnesium soaps, 70, and aluminum soaps, 120-140 A. L. R. Solov'eva. *Colloid J.* (U.S.S.R.) **3,** 303-8 (1937); through Chem. Abs.

Disinfectant Mixture

A paste composition for disinfecting purposes consists of a soapy mixture of linseed oil, potash lye, distilled water, spirits of wine, cresol and glycerine. Schlegel & Gerber. Swiss Patent No. 189,756.

New ECONOMY for the SOAP Industry!



Large soap kettle lined with 16-gauge IngAclad. Wide seam indicates method of covering existing rivets. This installation was made for a large manufacturer of toiletries.

Leading soap manufacturers of America are making use of the marked economies offered by IngAclad Stainless-Clad Steel. They are finding that on new equipment, they make a saving of about half on the cost of the basic material. In many cases, they are making even greater savings by simply re-lining old tanks and kettles with this stainless-clad material which gives full stainless service on the side that is used.

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The Cameron & Barkley Co., Tampa, Fla.
Equitable Equipment Co., 410 Camp St., New Orleans, La.
R. E. Chase & Co., Tacoma Bldg., Tacoma, Wash.
Bruce Donald, 164 Dufferin Ave., Brantford, Ontario
Paul S. Menough, Chamber of Commerce Bldg., Pittsburgh, Pa.
The Adler Steel Products Co., 310 Thorpe Bldg., Minneapolis, Minn.

New Equipment

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

475—Pressure Sprayer

Mystic Products Co., Minneapolis, has been granted a patent on its new "Mist-ic" pressure sprayer, which has been designed for use wherever large areas are to be treated. It is claimed that this new device differs from others in that the nozzles are mounted at a 30° upward angle which tends to force the spray toward the ceiling. A preheating vacuum chamber, it is added, aids in vaporizing the spray solution.

Publications

476—Amer. Cyanamid Booklet

American Cyanamid and Chemical Corp., New York, has published a booklet describing the wetting, penetrating, emulsifying and dispersing properties of "Aerosol," its new synthetic wetting agent. Copies available on request.

477—Monel Equipment Folder

International Nickel Co., New York, has just issued a folder describing the service records of plant equipment which has been repaired with monel gaskets, monel pump parts, and monel valve trimmings. Copies available on request.

478—Floor Scraper Folder

Eirmann Floor Scraper Co., Port Chester, N. Y., is preparing to mail a folder describing its line of floor scrapers and floor squeegees. The floor scrapers, available in various sizes and models, are equipped with replaceable blades. The squeegees are built in a rounded design to avoid loss of water in use. Both products are offered for resale only by the jobbing and janitor supply trades. Copies of the folder are available, singly or in quantity, on request.

479—Viking House Organ

Viking Pump Co., Cedar Falls, Ia., has just issued the Spring number of its quarterly house magazine, *The Viking Vacuum*. The issue contains, among other items, a bibliography of the latest bulletins and price lists on Viking pumps, and a comparison table of the different methods of measuring pressures.

480—Tea Tree Oil Circular

R. F. Revson Co., New York, has just issued a circular describing the properties of tea tree oil. Hospital tests indicating that tea tree oil possesses substantial germicidal value are given in detail. The circular also suggests its possibilities as an ingredient in cosmetics and soaps. A table of dilution strengths, according to the specific uses intended, is included. Copies available on request.

481—Filter Press Catalog

T. Shriver & Co., Harrison, N. J., manufacturers of filter presses and diaphragm pumps, have just published a catalog listing the various types of Shriver presses and pumps, together with suggestions for their proper operation and selection. Copies available on request.

482—Floor Materials Booklet

Chemical Specialities Co., Milwaukee, has just issued a booklet describing its line of heavy duty floor finishes and floor maintenance materials, together with conditions for which each product is used, how it is applied, the coverage possibilities, and suggestions for maintenance after the floors have been treated. Copies available on request.

Sodium Polyphosphates

Sodium polyphosphates or mixtures of these, for use as washing, softening or smoothing agents, are prepared by fusing masses containing sodium oxide and phosphorus pentoxide in the proportions of 1:1 to 2:1. Various sources of sodium oxide and phosphorus pentoxide are used, and the mixture after solidification, may be reheated to 250-650° C. The polyphosphate of formula $Na_5P_3O_{10}$ with or without eight molecules of water is preferred as the product. Chemische Werke vorm. H. & E. Albert, Akt.-Ges. French Patent No. 818,116.

Parasiticide

A preparation for the treatment of parastic skin diseases contains rotenone, a nontoxic, volatile solvent present in sufficient quantity to dissolve the rotenone, and an oil or fat. E.g., it may contain rotenone, chloroform and olive oil,—or crude derris extract, acetone and peanut oil. Merck & Co. Canadian Patent No. 372,333.

Germicide

An antiseptic composition possessing germicidal and fungicidal properties consists of a stable aqueous system including free iodine and ferric iodide in the ratio of about 1 part of iron to 10 parts of iodine. It is produced by triturating elemental iron and an excess of elemental iodine in an aqueous vehicle, while maintaining the temperature below 180° F. The composition may be strongly diluted without destroying the stability of the iodine-ferric iodide equilibrium. Raymond C. McQuiston. Canadian Patent No. 371,899.

Disinfectant Spray

Mixtures of formic acid with its salts, such as sodium formate and potassium formate, are used as disinfectants and deodorants. Formic acid itself is for charging air for disinfecting rooms in which vapor is dispersed. I. G. Farbenind. A.-G. German Patent No. 655,185.

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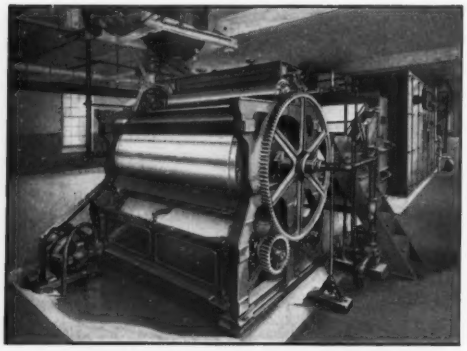

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● The New Proctor Chip Soap System produces the thinnest of chips . . . chips perfectly formed in long ribbons, evenly thin from edge to edge, uniformly dried free from hard overdried particles or underdried spots. These chips make cleaner, whiter, quicker-dissolving laundry flakes. They make smooth-surfaced, clear-colored toilet cakes. They give quicker, better milling and plodding. They give quicker, easier grinding into powdered soaps . . . with less loss in dust. New high speed chilling roll . . . spray-cooled, pump-drained, precision-ground, smooth-surfaced. New drying machine . . . with revolutionary improvements in principal details of design . . . more efficient, more economical, cleaner in operation. Write for your copy of our new descriptive Bulletin No. 72.

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Henley's Twentieth Century Book of Recipes, Formulas and Processes. A handy reference book listing 10,000 miscellaneous formulas, including special sections for soaps, polishes, insecticides, etc. 800 pages, $4.00.

The Industrial Chemistry of Fats and Waxes, by Hilditch. A study of the fats and waxes in relation to their use in industry. 450 pages, $7.50.

Hydrogenation of Organic Substances, by Ellis. Latest revised edition of this well-known book, pre-eminent in the field of hydrogenation. 990 pages, $15.00.

Laundry Chemistry, by A. Harvey. A manual on the chemistry of laundry materials and methods. 120 pages, 5 x 7½. $1.75.

Modern Soap Perfumes, by Sedgwick. A practical handbook on the science of soap perfumery, $1.00.

Pyrethrum Flowers, by Gnadinger. A complete compilation of all known facts on pyrethrum; its history, sources, evaluation, chemistry and uses. The problems involved in the manufacture of pyrethrum products are given thorough and lucid exposition. 396 pages, $5.00.

"Soap." Bound volumes for years 1927-28, 1935, 1936 and 1937 available at $12.00 each.

Soap Blue Book. A Buyer's Guide, Catalog and Business and Technical Reference Book. 195 pages, $1.00.

Vegetable Fats and Oils, by George S. Jamieson. 444 pages. An American Chemical Society Monograph. Covering classification, occurrence, properties, analytical methods, etc., of vegetable oils, fatty acid and other derivatives; also production and refining methods, $6.50.

Chemistry of Laundry Materials, by D. N. Jackman. A useful book for the laundry operator, containing valuable information on the chemistry of laundry materials. Discusses alkalies, soaps, bleaches, starches, also the newer detergents, synthetic soaps, etc. 230 pages, $2.50.

The Chemical Formulary, by H. Bennett. This latest edition carries 5,000 formulae all said to be different from those appearing in the first and second editions. 5½ x 8½. 550 pages. Price, $6.00.

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MAC NAIR-DORLAND CO.

254 West 31st Street NEW YORK CITY

Oil of Rose Geranium

(*From Page 32*)

The hot water drawn from the condenser tank is replaced by colder water from the reserve water drum. Since this consists mostly of distillation water, the same water in this circuit serves again and again for distillation and cooling and is replaced by fresh water from a distant spring only to the extent it has evaporated. Such procedure certainly is not beneficial to the quality of oils. The condensed water is again and again cohobated and the residues remain in the still. This feature, together with others such as different plant variety, different climatic and soil conditions, undoubtedly is the main reason why Reunion geranium oils in comparison to steam distilled Algerian geranium oils have a sharper, harsher and stronger perfume character. It seems quite logical that Reunion geranium oils, if distilled in modern steam plants, probably would be of finer quality. Experiments to this effect were carried out a few years ago by Messrs. Garnier and Defaud in St. Paul. Samples submitted to our laboratories quite conclusively proved this contention.

Lack of water is not general in Reunion Island. In many regions it is abundant, and distillation may be carried out under normal conditions, but in these cases, too, distillation is always done in the same type of small migratory direct fire stills.

Because of the peculiar conditions governing the passing of the oil from the small distillers to the exporters in St. Denis, the final lots exported from Reunion consist of bulked mixtures of many small lots of all types of geranium oils. It is almost impossible, at least very difficult and somewhat more costly, to obtain lots consisting only of certain well defined distillates. We shall refer to this problem again in the following pages.

Before closing this chapter on distillation, we should mention that during the off-seasons the field-stills are partly dismantled and the more valuable and easily movable parts, the helmet and gooseneck, for instance, stored against possible theft.

(To be concluded)

Rancidity and Peroxides

Although the liberation of iodine from potassium iodide solution has been used widely to determine peroxides, the values so obtained are apt to be too high, owing to iodine liberation by agents other than peroxides. Such errors are believed to be voided in the following method:

Mix 15 cc. of a solution, prepared by dissolving 1 gram of titanium sulfate in 100 cc. of 20 per cent sulfuric acid, diluting to 1 liter with water and filtering,—with 30 grams of fat sample. Shake for 20 minutes, warm to 60° C. in a water bath and shake for 5 minutes more. Again warm and centrifuge to break the emulsion. (Stubborn emulsions were handled by pouring off any clear nonaqueous layer, adding petroleum ether, shaking, centrifuging and repeating these operations until all fat had been extracted, and then evaporating any residual petroleum ether from the emulsion, if it was still unbroken.) The intensity of the yellow color of the aqueous layer, after filtering through kieselguhr, is proportional to the peroxide content of the fat sample.

Application of this method to various rancid fats such as tallow, palm oil, olive oil, etc., showed that the amount of peroxide present was greater, the worse the rancidity as determined organoleptically. Exposure of fats in shallow dishes to air and sunlight for 0.5 to 4 hours resulted in the formation of relatively large amounts of peroxides. Peroxides were also formed when coconut oil and peanut oil were exposed in the dark at 100° C. to air. All of the fats exposed to light and air as described, became tallowy, with the exception of linseed oil, and in most cases gave a positive ketone test. R. Strohecker, R. Vaubel and A. Tenner. *Fette und Seifen* **44,** 246-50 (1937).

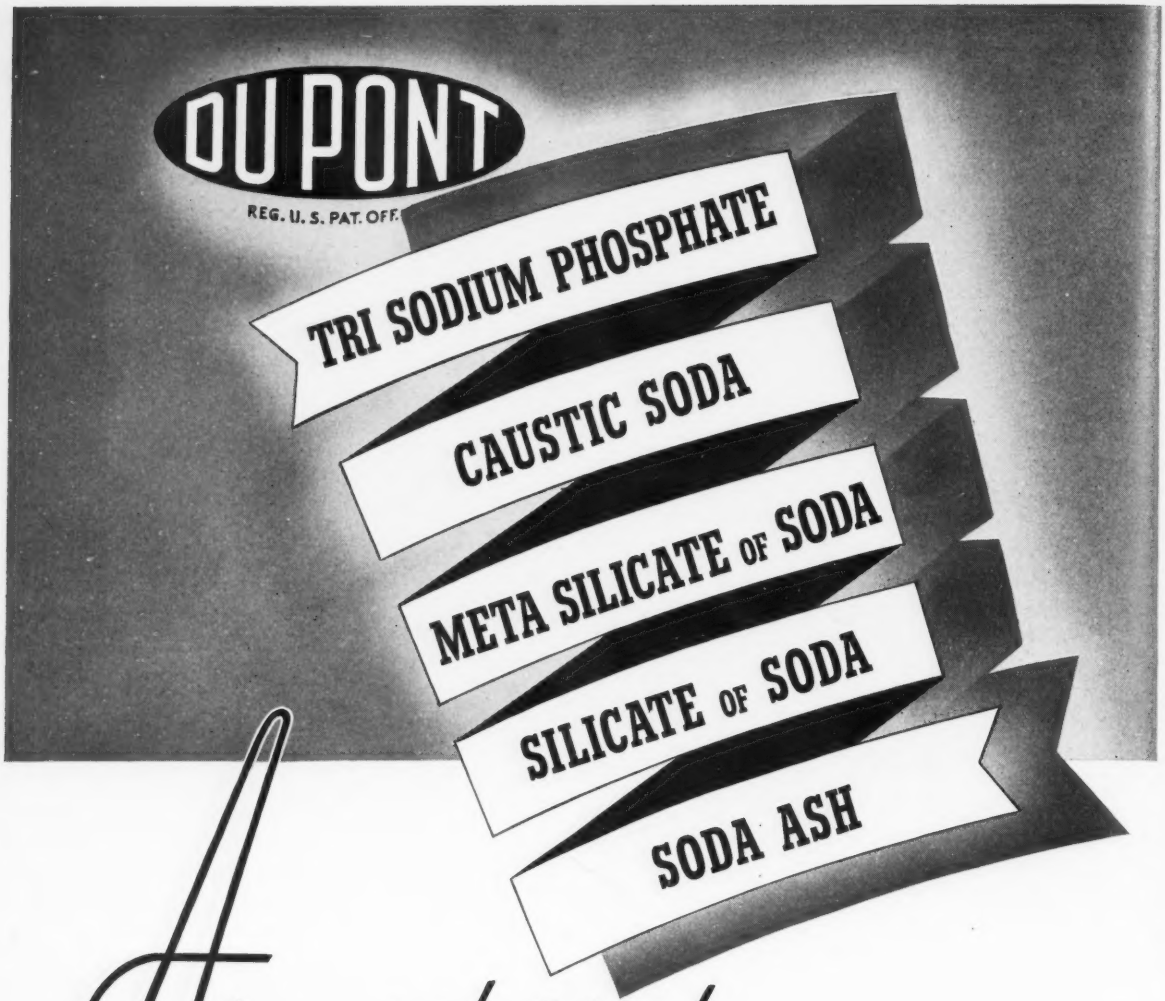
Carotene Identity of Oils

To test for carotene in fats or oils, mix 15 cc. of sample with 7.5 cc. of petroleum ether boiling at 30-60°C. and 2 cc. of amyl alcohol. Add 1 cc. of sulfuric acid of specific gravity 1.53. The mixture is shaken for 2 minutes and let stand. An acid layer separates which is blue in the presence of carotene. If the amyl alcohol becomes discolored on treatment with sulfuric acid, it should be treated with the acid and distilled before use. Positive reactions for carotene were obtained with palm, linseed, soybean, rape, mustard seed, cottonseed and egg oils, tallow and milk fat. Sesame oil, peanut oil, coconut oil, palm kernel oil and lard gave negative reactions.

Carotene is eliminated by acid bleaching earths. The test can therefore be applied in certain cases for identifying raw oils. Because of the similarity in iodine number an African peanut oil can be mixed with 20-25 per cent of a cheap soybean oil and marketed as a Chinese peanut oil. Peanut oils from various parts of the world both pressed and extracted were all negative. Similar tests on soybean oil were all positive. S. H. Bertram. Ole, Fette, *Wachse, Seife, Kosmetik* **1937**, No. 8, 1-2.

Safflower Oil

Safflower oil is obtained from the safflower, also known as Chinese sunflower and false safron. It resembles sunflower oil in that it is a semidrying oil. The oil content of the whole fruit is about 25 per cent and of the seed about 50 per cent. The oil has a specific gravity of 0.9227-0.9380, saponification value of 172-203, iodine number of 111-150, and per cent unsaponifiable 0.6-1.5. The oil is somewhat viscous and golden yellow in color, and has a characteristic odor. It can be purified for use as a food product, and can also be used in the paint industry and in making soap. H. P. Kaufmann and H. Fiedler. *Fette und Seifen* **44,** 422-3 (1937).



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Soap Buying Habits

(*From Page* 26)

Only 65 per cent of Milwaukee families report themselves as purchasers of tooth paste this year, as compared with 67.9 per cent a year ago and 91.8 per cent four years ago. Average consumption per family, where used, is constant at 2 tubes per month.

"Colgate's" continues to be the leading seller, with a consumer acceptance figure of 18.8 per cent as compared with 20.1 per cent a year ago. "Pepsodent" remains in second place with 17.9 per cent. The only one of the leaders to show a gain this year is "Ipana" which strengthened its third place position by advancing from 14.4 to 16.6 per cent.

With tooth paste sales on the down-grade in Milwaukee, tooth powder has been making steady gains in consumer use. This year it is in use by 57.3 per cent of the reporting families, as compared with 52.9 per cent a year ago and 17.5 per cent three years before that date. The gain over the period of four years has been an exceptional one. Average consumption per family among users is unchanged at 1.4 cans per month.

"Dr. Lyon's" continues as the most popular brand, being preferred by 59.6 per cent of Milwaukee housewives. "Pepsodent," in second place, has a consumer acceptance of 8 per cent and "Revelation," in third place, registers 5 per cent.

MANY changes have taken place in the liquid shampoo situation in the Milwaukee market since this product was first included in the 1937 Consumer Analysis. In one year total use has made a phenomenal growth from 74,130 or 39.4 per cent of all families to 90,914 or 47.8 per cent of all families. This means that 16,000 families now buy liquid shampoo who did not buy it last year.

With the increase in number of users of liquid shampoo, the average consumption has risen from 4.7 bottles per family per year for the year ending January 15, 1937, to 5.2 bottles per year for the year ending the same date in 1938.

"Drene," the number one brand of liquid shampoo, added almost 23,000 families to its list of users this year. From 28.8 per cent consumer popularity in 1937, "Drene" leaped to 48.7 per cent in 1938. With the exception of "Drene" and "Admiracion," every brand of liquid shampoo in the chart shows a drop in percentage of popularity. "J. R. Watkins" continues in second place, although showing a decrease from 17.3 per cent of all users to 15.6 per cent this year. "Fitch's" decreased from 11.4 per cent consumer popularity in 1937 to 8.3 per cent this year.

Mouth wash advanced from 59 per cent in consumer use in 1937 to 59.7 per cent this year. Average consumption by families who use mouth wash was 1.2 bottles per month for the year ending January 15, 1938, the same figure recorded in 1937.

Low Cost Soap Perfumes

(*From Page* 23)

hyde, with a corresponding improvement in results.

Nutmeg Oil

A well known perfume type employed in medicated soaps is built up from nutmeg oil. Suitable blending enables the characteristic note to be retained in a cheap compound. Methyl salicylate and benzoate also play an important part in the definition of the odor.

Nutmeg oil	10
Methyl salicylate	8
Methyl benzoate	5
Geraniol terpenes	32
Cedarwood oil	20
Terpineol	25

Omission of the methyl salicylate, reduction in the proportion of nutmeg oil, and the inclusion of rectified birch tar oil produces a perfume representative of the "Russian Leather" odor, for which the soapmaker may have some use:—

Nutmeg oil	2
Methyl benzoate	2
Birch tar, rect.	3
Cedarwood	50
Terpineol	43

Suitable blending of the first three ingredients of the above into a base consisting largely of sandalwood, incidentally, produces a more expensive perfume with distinct possibilities for shaving soaps.

Eucalyptus

There is occasionally a demand for soaps odorized with eucalyptus. The plain oil may of course be used, but a better result is achieved by the addition of cassia, spike lavender and a fixative.

Eucalyptus	60
Cassia	10
Spike lavender	10
Cedarwood	20

Spike Lavender

It need scarcely be said that a soap lavender cannot be produced at a price comparable with the limit already suggested. It is possible, however, to get an odor of the same general class by the use of the cheap grades of spike lavender, employing liberal quantities of terpinyl acetate and shui acetate fractions, fortifying the odor with benzylidene acetone and phenyl acetic acid:

Spike lavender	40
Terpinyl acetate	10
Linalyl acetate fractions (or Shui)	20
Benzylidene acetone	5
Terpineol	10
Peppermint	3
White thyme	5
Phenyl acetic acid	3
Styrax	4

Conclusion

The formulae given do not even begin to exhaust the possibilities of inexpensive soap perfumes, and in view of the large sale which exists for bulk toilet soap with a reasonably sweet odor in which perfume costs must be reduced to a minimum, it would be worth while for the manufacturer to devote some attention to the subject. Too many firms are content to use formulae which have been unchanged for years,—relics of the firm's early days,—and in many cases it might be possible to economize on costs without in any way introducing inferior perfumes.

It will be noticed that several of the above incorporated at 8 oz. per cwt. will cost less than the 1 per cent of citronella taken as a standard. In these cases, of course, the perfume content can be increased accordingly, if desired.

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(*From Page 53*)

N. J. Filed Oct. 25, 1937. Serial No. 398,876. Published Jan. 4, 1938. Class 4.

355,356. Shaving Cream. Pennshave Products, New York. Filed Sept. 2, 1937. Serial No. 397,051. Published Jan. 4, 1938. Class 4.

355,358. Soap. Pinaud Inc., New York. Filed Sept. 8, 1937. Serial No. 397,225. Published Jan. 4, 1938. Class 4.

355,359. Automobile Cleaner. Blink Auto Products, San Diego, Calif. Filed Sept. 10, 1937. Serial No. 397,308. Published Jan. 4, 1938. Class 16.

355,370. Scouring Agents. General Dyestuff Corp., New York. Filed Sept. 23, 1937. Serial No. 397,707. Published Jan. 4, 1938. Class 4.

355,372. Detergent. Bennett, Inc., Cambridge, Mass. Filed Sept. 25, 1937. Serial No. 397,790. Published Jan. 4, 1938. Class 4.

355,374. Scouring Material. Tri-State Development Corp., Burnsville, N. C. Filed Sept. 30, 1937. Serial No. 397,990. Published Jan. 4, 1938. Class 4.

355,401. Laundry Detergents. Clarence M. Cobb, Boston. Filed Oct. 23, 1937. Serial No. 398,837. Published Jan. 4, 1938. Class 4.

355,449. Soap. Federated Foods, Inc., Chicago. Filed Nov. 19, 1937. Serial No. 399,925. Published Jan. 4, 1938. Class 4.

355,450. Cleaning Agents. Sterling Products Co., Easton, Pa. Filed Nov. 22, 1937. Serial No. 400,032. Published Jan. 4, 1938. Class 4.

355,456. Furniture Polish. A. S. Boyle Co., Jersey City, N. J. Filed Oct. 25, 1937. Serial No. 398,871. Published Jan. 4, 1938. Class 16.

355,457. Furniture Polish. A. S. Boyle Co., Jersey City, N. J. Filed Oct. 2, 1937. Serial No. 398,872. Published Jan. 4, 1938. Class 16.

355,458. Liquid Wax. A. S. Boyle Co., Jersey City, N. J. Filed Oct. 25, 1937. Serial No. 398,873. Published Jan. 4, 1938. Class 16.

355,459. Cleaning Preparation. A. S. Boyle Co., Jersey City, N. J. Filed Oct. 25, 1937. Serial No. 398,874. Published Jan. 4, 1938. Class 4.

355,460. Preparation for Cleaning Rugs. A. S. Boyle Co., Jersey City, N. J. Filed Oct. 25, 1937. Serial No. 398,875. Published Jan. 4, 1938. Class 4.

355,507. Dispensers for Insect Preventative. Reefer-Galler Inc., New York. Filed Oct. 23, 1936. Serial No. 384,717. Published Jan. 11, 1938. Class 2.

355,568. Insect-Trapping Devices. Solo Chemical Works, Inc., St. Louis. Filed Sept. 29, 1937. Serial No. 397,956. Published Jan 11, 1938. Class 50.

355,732. Cleaning Compound. M. Werk Co., St. Bernard, Ohio. Filed Oct. 14, 1937. Serial No. 398,507. Published Jan. 18, 1938. Class 4.

355,746. Cleansing Powder. Albert J. Burman, Kansas City. Filed Oct. 25, 1937. Serial No. 398,889. Published Jan. 18, 1938. Class 4.

355,757. Antiseptic. Frederick Stearns & Co., Detroit. Filed Nov. 8, 1937. Serial No. 399,481. Published Jan. 11, 1938. Class 6.

355,766. Cleaner for Toilet Bowls. Lightning Chemical Co., Raynor Heights, Md. Filed Nov. 17, 1937. Serial No. 399,847. Published Jan. 18, 1938. Class 4.

355,767. Cleaning Fluids. H. A. Montgomery Co., Detroit. Filed Nov. 17, 1937. Serial No. 399,848. Published Jan. 18, 1938. Class 4.

355,768. Cleaning Compounds. H. A. Montgomery Co., Detroit. Filed Nov. 17, 1937. Serial No. 399,849. Published Jan. 18, 1938. Class 4.

355,775. Soap. Federated Foods, Inc., Chicago. Filed Nov. 19, 1937. Serial No. 399,926. Published Jan. 18, 1938. Class 4.

355,827. Insecticides. C & G Laboratories, Albany, Ga. Filed Mar. 15, 1937. Serial No. 390,110. Published July 27, 1937. Class 6.

355,838. Antiseptic. Contra Creme & Diaphragm Co., Severna Park, Md. Filed July 8, 1937. Serial No. 394,995. Published Jan. 4, 1938. Class 6.

355,839. Liquid Soap. Commercial Soap & Chemical Co., San Francisco. Filed July 10, 1937. Serial No. 395,064. Published Jan. 25, 1938. Class 4.

355,846. Shaving Soap. Bourjois, Inc., New York. Filed Aug. 5, 1937. Serial No. 396,023. Published Jan. 25, 1938. Class 4.

355,847. Cleaning Machine for Floors. Continental Car-Na-Var Corp., Brazil, Ind. Filed Aug. 16, 1937. Serial No. 396,523. Published Jan. 4, 1938. Class 21.

355,848. Cleaning Preparation. Powdered Silk Co., Boone, Ia. Filed Aug. 18, 1937. Serial No. 396,542. Published Sept. 28, 1937. Class 4.

355,850. Shaving Cream. J. B. Williams Co., Glastonbury, Conn. Filed Sept. 1, 1937. Serial No. 397,013. Published Jan. 25, 1938. Class 4.

355,851. Shaving Soap. Colgate-Palmolive-Peet Co., Jersey City, N. J. Filed Aug. 26, 1937. Serial No. 397,014. Published Jan. 25, 1938. Class 4.

355,860. Detergents. General Chemical Co., New York. Filed Sept. 15, 1937. Serial No. 397,439. Published Jan. 25, 1938. Class 4.

355,861. Detergents. General Chemical Co., New York. Filed Sept. 15, 1937. Serial No. 397,440. Published Jan. 25, 1938. Class 4.

355,863. Cleaning Preparation. Sterling Products Co., Easton, Pa. Filed Sept. 21, 1937. Serial No. 397,624. Published Jan. 4, 1938. Class 6.

355,876. Germicide. Baro Laboratories, Buffalo. Filed Oct. 9, 1937. Serial No. 398,306. Published Jan. 18, 1938. Class 6.

355,878. Shampoos. Campana, Corp., Batavia, Ill. Filed Oct. 11, 1937. Serial No. 398,348. Published Jan. 4, 1938. Class 6.

355,891. Shaving Cream. Maison Joubert, Inc., New York. Filed Oct. 19, 1937. Serial No. 398,685. Published Jan. 25, 1938. Class 4.

Disinfectant Sprays

Antiseptic products to be sprayed into the air are composed of hydrocarbons of the fatty series such as rectified kerosenes having a Luchaire flash point above 65° C., 100 parts, ethyl acetate 10 parts and chlorophenols 10 parts by volume. Le Fly Tox. French Patent No. 817,632.

Insecticidal African Plants

Rotenone, white crystals, probably a mixture of *l*-deguelin and tephorosin, and yellow crystals, probably dehydrorotenone, glucosides and alkaloids, were isolated from *Mundulea* bark. Only the rotenone is appreciably toxic to *Aphis tavaresi*. The two sets of crystals obtained by the use of alkali probably do not exist as such in the bark, but have been produced from a more toxic precursor. Crystals other than rotenone could not be obtained without the use of alkali.

No correlation was found between toxicity to *A. tavaresi* and the amount of ether-extractable material in the plant. There was a fair correlation between toxicity and rotenone content, toxicity being about 1.6 times that of pure rotenone. A correlation exists between "optical" dehydro compounds and toxicity to *A. tavaresi*. The formula for the regression line is P equals 5.03 plus 1.98 (c — 1.30), where P equals probability unit and c concentration of "optical" dehydro compounds in mg. per liter. The concentrations of two samples of *Mundulea* bark which must be taken to give equal toxicity are inversely proportional to their contents of "optical" dehydro compounds. Content of "Tahei" dehydro compounds and toxicity are not correlated. R. R. LeG. Worsley. *Ann. Applied Biol.* **24,** 651-8, 659-64 (1937).

Drying Pyrethrum Flowers

Analyses by the Seil method showed little or no loss of pyrethrins when pyrethrum flowers were kiln-dried for 10 hours at 52° C. or for 6.5 hours at 60° C., as compared with the air-dried controls. There was a small loss of pyrethrins when the flowers were kiln-dried at 45°, 68° and 75° C. for 21, 5.75 and 3.5 hours, respectively. When determined by the Haller and Acree method, the content of pyrethrin II was much higher in the kiln-dried flowers than in the corresponding air-dried controls. The Haller and Acree method gave higher results on the kiln-dried samples and lower results on the air-dried samples than did the Seil method for pyrethrin II. S. G. Jary, J. T. Martin and F. Tattersfield. J. Southeastern Agr. College, Wye, Kent No. **40,** 108-14 (1937); through Chem. Abs.

Cresol Disinfectant

A cresol disinfectant can be made at low cost by using rosin soap as the basis for the emulsifying agent. A small proportion of coconut oil and castor oil soaps aid emulsification. The rosin and oils are melted together in a suitable pan and the heat removed as soon as the mixture is completely melted. Creosote oil is then run in with constant stirring. An amount of caustic soda is added with stirring, which will cause 80 per cent saponification of the fat and rosin mixture. The water is run in, again with vigorous stirring. The mixture is allowed to stand overnight and the usual antiseptic and physical tests applied the next day. The rosin does not need to be completely saponified because rosin is soluble in creosote oil, so that there need be no fear of sedimentation. This method is simpler and cheaper than that in which complete saponification is attempted. The following are suitable formulas:

	Parts by weight		
	I	II	III
Rosin, white	...	100	...
Rosin, red	85	...	95
Coconut oil	15	...	...
Castor oil	...	...	5
Caustic soda, 38°Be.	30	35	40
Water	200	220	100
Creosote oil	150	100	150
Carbolic acid, commercial	...	1.5	2

Soda ash can be used for saponification in place of caustic soda. Soda ash is 90 per cent as efficient as a saponifying agent for rosin, as caustic soda. Krishnalal Wahi. *Indian Soap J.* **4,** 89-92 (1937).

Mixing Insecticidal Dusts

An efficient method for mixing large or small quantities of insecticidal dusts containing a conditioner is to replace the truncated cone hopper of a small motor-driven concrete mixer by a cylindrical steel hopper. This is provided with baffle plates and a tight-fitting cover. Mixing of the materials is facilitated by the presence of 10-12 quarts of rounded stones, 1-1.5 inches in diameter. Liquid conditioning agents can be sprayed into the dust while the apparatus is in motion. T. E. Bronson. U. S. Dept. Agr., Bur. Entomol. Plant Quarantine *ET*-115.

Patented Disinfectant

A disinfectant is made by mixing an alkyl- or cycloalkylphenol containing at least 4 carbon atoms in the side-chain, and a phenol of lower molecular weight such as a cresol or a xylenol or a halogenated phenol. The compositions may be dispersed in water with the aid of soap or a salt of a sulfonated fatty acid. Emil Klarmann. German Patent No. 651,192.

Hypochlorite Efficiency

Increasing the concentration of available chlorine fourfold sodium hypochlorite solutions, reduces the killing time to about one-half. Changes in pH affect the germicidal power to a much greater extent than do changes in the concentration of available chlorine. The germicidal power decreases with increasing hydrogen-ion concentration. Germicidal power increased with rising temperature, the killing time being reduced from 50 to 75 per cent for a rise of 10° C. A. S. Rudolph and Max Levine. *J. Bact.* **35,** 3 (1938).

New Germicide

A germicidal preparation contains *ortho*-hydroxyphenylmercuric chloride in such concentration as to kill bacteria, and in addition a germicidal phenolic compound such as amyl cresol. The Upjohn Co. Canadian Patent No. 372,358.

Sanitary Products SECTION

A Section of "SOAP" dealing with

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Floor Products • Polishes • Chemical Specialties

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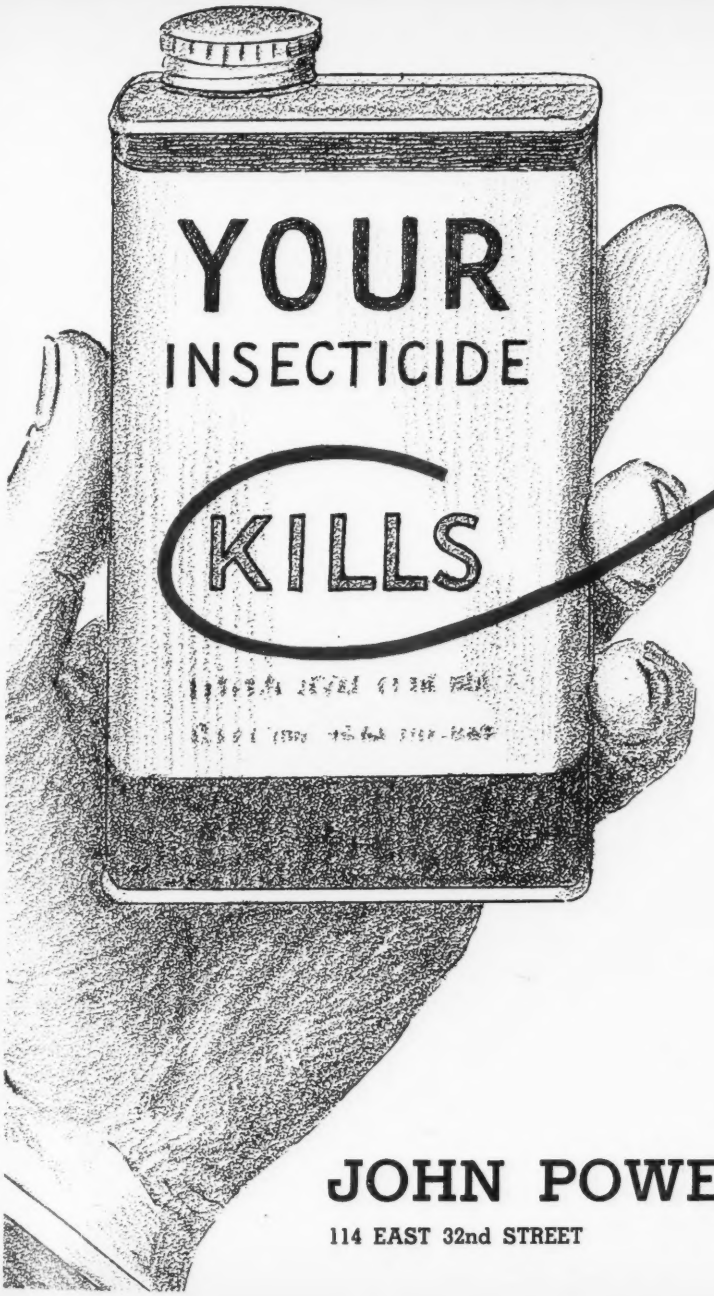

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PYRETHRUM CONCENTRATE—

will there be another increase in 1938 sales?

OUR prediction, based on available weather surveys and preliminary reports from the field, is that the mild winter will again result in a nation-wide insect problem and a further increase in sales of pyrethrum concentrate this year. With this probability in mind we have made a substantial increase in our productive capacity over the past few months. When the season gets into full swing we want to be in position to handle peak volume with no delay.

Perhaps you should anticipate now what effect the weather factor will have on your 1938 sales. We recommend also that some of your future requirements for Prentox Pyrethrum Concentrate No. 20 be covered without further delay.

We look forward to seeing our friends at the mid-year meeting of the National Association of Insecticide and Disinfectant Manufacturers. The time,—June 13, 14 and 15. The place,—Lake Wawasee, Indiana. Have you made your reservations?

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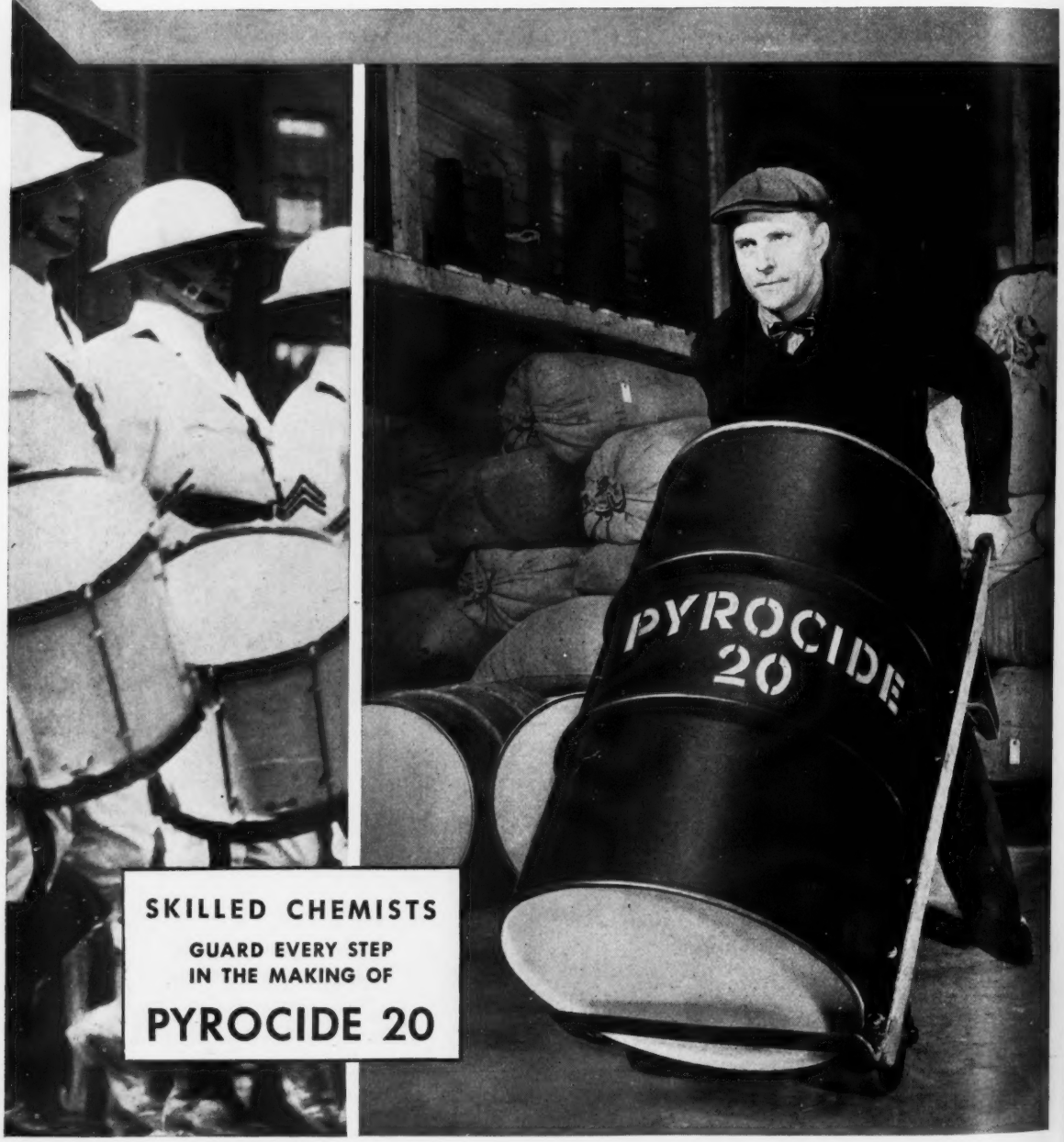

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GUARD EVERY STEP
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WELDED STEEL DRUMS pyrethrum extract!

CHECK THESE SPECIFICATIONS

1. Pyrethrin Content: 2.5% by weight or 2 grams per 100 c.c.

2. Stabilized: Retains its strength. Stabilized with antioxidant that has been proved effective by laboratory tests and commercial use over two years.

3. Killing Power: Guaranteed equal to or better than any extract of equivalent pyrethrin content.

4. No "False Pyrethrins": Patented process removes materials which are not pyrethrins but which react like pyrethrins when assayed by the Seil method.

5. Odor: Made only with odorless base oil. Practically free from odor, except the natural floral aroma of pyrethrum. No Kerosene used in Pyrocide 20.

6. Color: A rich amber. Free from colloidal green coloring matter. The purest form of pyrethrins commercially available.

7. Clarity: Dilutes brilliantly clear with any base oil. Remains clear either in concentrated form or when diluted for use.

8. Economy: No increase in price for improved odor — improved color — improved stability — improved clarity. Requires ⅓ to ½ less perfume.

We use them to make doubly sure Pyrocide 20 is clear and powerful when it reaches you

Certain metals quickly ruin pyrethrum extract. But not steel. That's why we go to the extra trouble and expense of shipping Pyrocide 20 in all-steel drums with welded seams. Because no metal except steel comes into contact with the concentrate, Pyrocide 20 retains its crystal clarity and is pure and powerful when you are ready to use it.

The same degree of precaution that dictates the selection of welded all-steel drums guides every step in the making of Pyrocide 20. It begins with the selection of the highest test flowers as determined by the laboratories which we established in the Far East . . . continues through every step in processing . . . grinding, extracting, clarifying . . . even to stabilizing Pyrocide 20 with proven antioxidant.

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If you have not already joined the hundreds of manufacturers who are making better insecticides with Pyrocide 20—investigate this improved pyrethrum extract at once. Learn how Pyrocide 20 can improve your product at no additional cost . . . how you can actually save money by using it. Today — write for FREE illustrated booklet, "PYROCIDE 20, Deodorized — Clarified."

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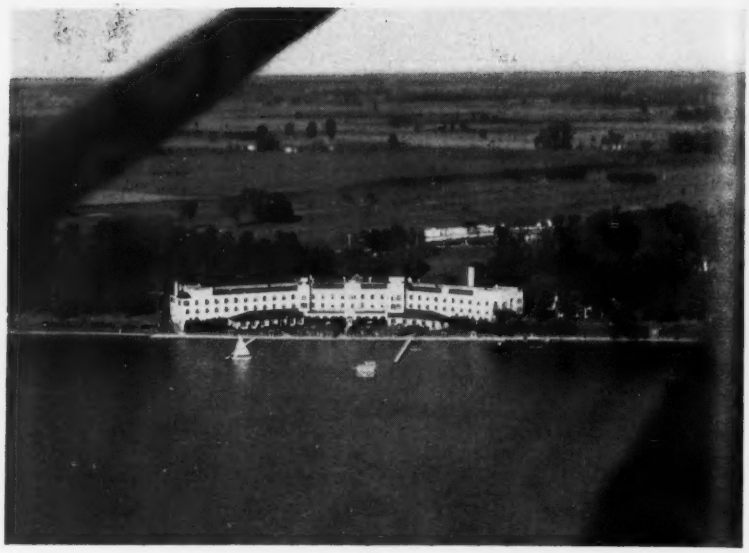
Plan now to attend the



Aerial view of The Spink-Wawasee on Lake Wawasee, Indiana

24th annual summer meeting of the National Association of Insecticide & Disinfectant Manufacturers

THE 24th annual summer meeting of the National Association of Insecticide & Disinfectant Manufacturers will be held on June 13, 14 and 15 at **The Spink-Wawasee** on Lake Wawasee, Indiana.

In addition to modern facilities for meetings and hotel accommodations, **The Spink-Wawasee** offers numerous opportunities for outdoor sports and recreation . . . our beautiful 18-hole golf course is immediately adjacent to the hotel . . . one of the finest in the middle-west . . . first tee just a step away . . . tennis courts, free to hotel guests . . . saddle horses available at very reasonable rates . . . baseball diamond and other sports.

For those who enjoy the water, we can offer full variety . . . boating . . . boats may be rented . . . speed boat rides . . . swimming . . . the lake offers excellent fishing . . . temporary Indiana license only $1.00 . . . guides may be hired, including tackle, boats, bait, etc. . . . complete at $5.00 per day.

The Spink-Wawasee bids you welcome to your first meeting in Indiana, and will do everything to make your meeting a complete success, and your stay enjoyable. It is suggested that if you have not already done so, that you make reservations for rooms at once either through our winter office at the Spink Arms Hotel, Indianapolis, or through the executive office of the National Association of Insecticide & Disinfectant Manufacturers, 110 East 42nd St., New York.

The Spink-Wawasee

Lake Wawasee, Indiana

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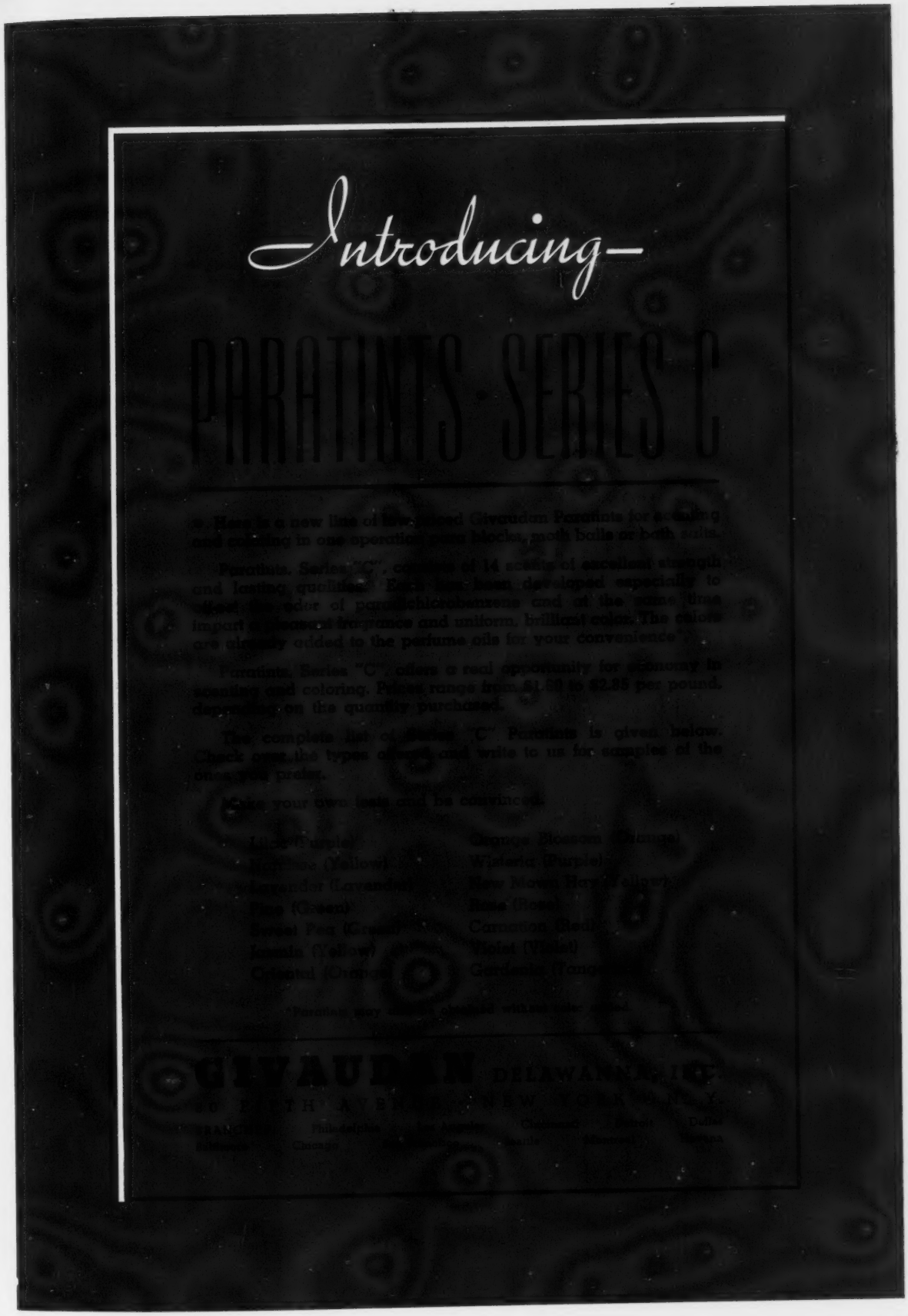
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ONE POUND of F. S. Deodorant No. 3 in 200 gallons of spray acts as an effective deodorant ...at a cost of only slightly more than one cent per gallon. One pound to 100 gallons of spray both deodorizes and perfumes, giving it a pleasant and quickly dissipated fragrance.

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We have been told that this new *F. S. Deodorant No. 3* is superior to anything yet offered for the purpose. The price is $2.25 a pound. We suggest that you write for a testing sample. Du Pont also offers a complete line of efficient and economical deodorants and aromatics for manufacturers of furniture polishes, floor waxes, moth sprays, para products, cleaning fluids, and kindred products.

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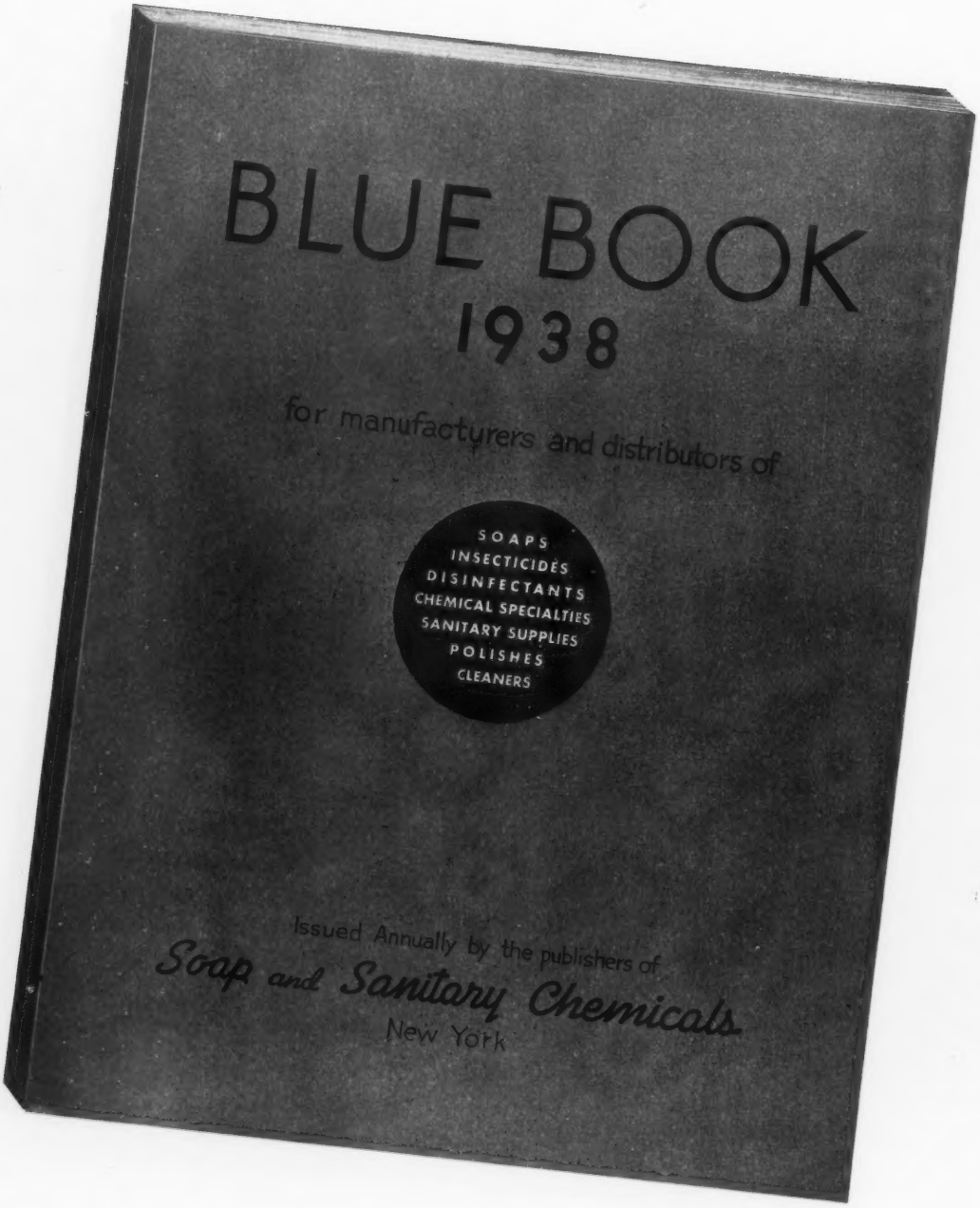

38 BLUE BOOK

Contents

This section has again been materially expanded, reflecting subscribers' expressions of approval. Contents of the 1938 edition include: reference articles on the following subjects: Soap Dispensers —a complete review of all types of dispensers available for liquid and powdered toilet soap, detailing the good points and shortcomings of each; The Manufacture of Emulsion Floor Waxes; White Shoe Cleaners,—a review of the various types on the market with instructions for their preparation; Household Ammonia, — instructions on preparation, complete with dilution tables; Insecticide Perfuming,—comments on suitable and unsuitable odors for fly sprays; Peet-Grady Test,—first publication of the new revised method for insecticide testing; F. D. A. Disinfectant Testing Method; Specifications of the National Association of Insecticide and Disinfectant Manufacturers for insecticides and disinfectants; U. S. Specifications for soaps, polishes, waxes, cleansers, chemicals, etc.; Oil and Fat Tariff and Excise Rates; an index to SOAP for the years 1934, 1935, 1936 and 1937 (makes it easy to locate valuable technical information); Technical Charts and Tables; Directory of Association Officers.

Reference Section

The Buyer's Guide contains a list of everything readers of SOAP buy—raw materials of all kinds, machinery, packaging materials and bulk soaps, sanitary products and sanitary accessories—with a comprehensive list of leading suppliers of each item. This is distinctly not an ordinary buyer's guide, cluttered up with names of dealers, branch offices, etc., and with advertisers indiscriminately listed. We have strived in each case to list only first hands—actual primary sources of supply.

Buyer's Guide

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Announcement-

THE 24th annual summer meeting of the National Association of Insecticide & Disinfectant Manufacturers will be held at The Spink-Wawasee, on Lake Wawasee, Indiana, on June 13, 14 and 15. Many matters of material importance to our member firms and to the insecticide and disinfectant industries at large will be presented for discussion,—and decision. It is the urgent request of the officers that every member's firm have at least one representative present for the full period of the meeting.

J. L. BRENN,
President.

▼

National Association of Insecticide & Disinfectant Manufacturers, Inc.

110 East 42nd Street — New York

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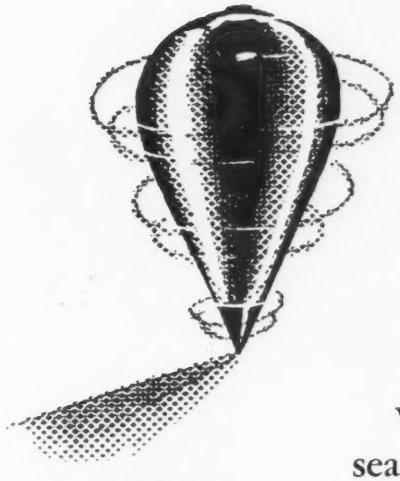


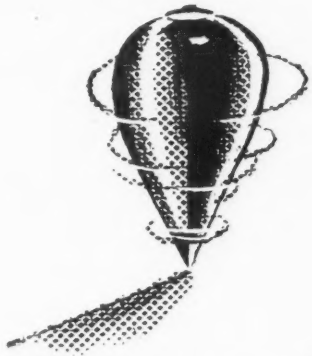
TOPS

Watch the successful insecticides this season.

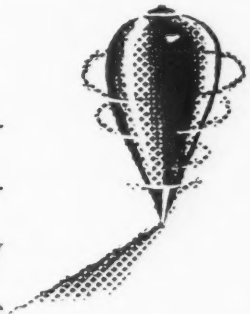
They will be the ones that are tops on two points.

First, they will be effective as killing agents

Second, they will be pleasant to use.



The first point is up to you. As perfumers, we have specialized on covering the odorous constituents of spray bases to make them more acceptable and more pleasant to use in the home.



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Supplied in strengths from two to twenty times that of pure carbolic acid. All grades are of the highest quality, uniform in composition, dilute readily with water to form rich, milk-white emulsions, without oily float or sediment. Manufactured under rigid chemical and bacteriological control. All grades meet N.A.I.D.M. Standards.

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CLEARPINE — light in color, phenol coefficient five, forms rich milky emulsions. PENPINE — light amber color, phenol coefficient four. ORPINE—amber color, phenol coefficient three. All contain a maximum of ten percent water—all meet the N.A.I.D.M. Standards. Manufactured from steam distilled pine oil under our own special process.

Animal Sprays and Dips

Coal Tar Disinfectants with phenol coefficients of 2 to 6 are admirably suited for the dipping of sheep. Also used widely as a bath for dogs. TIC-TOX is an arsenical cattle dip. It is officially permitted by the Bureau of Animal Industry, for the dipping of cattle affected by tick.

Liquid Insecticides

PES-TOX is a light, crystal clear, lemon-colored spray, manufactured from pyrethrum concentrate and odorless hydrocarbon base. Perfumed if you wish. A powerful household spray.

BUG-TOX—a contact insecticide —crystal clear—almost water white. For killing bed-bugs, roaches, ants, water-bugs, etc. Leaves no disagreeable "after-odor."

Pyrethrum Concentrates

Of the odorless type—20 to 1 concentration. Manufactured by the most modern and efficient equipment. Pyrethrin content guaranteed. Mixes with suitable hydrocarbon oil base to form crystal clear insecticide. Make your fly spray with Baird's Certified Pyrethrum Concentrate No. 20 this year and watch your sales increase.

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We offer acids of English manufacture, ranging in tar acid content from 90% to 100%. Supplied in dark, cherry, or pale color. Cresylic Acid forms part of many liquid insecticides and disinfectants, formaldehyde and other condensation products. Used for leather preservation, as a solvent and in the manufacture of lumber treating compounds.

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Made from refined Cresylic Acid and a saponifier. When diluted with water, clear, transparent solutions are formed. Bacteriological tests show it to be four to six times more effective as a germicide than pure carbolic acid. Is used as a disinfectant, deodorant and for sterilizing surgical instruments.

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79 WALL STREET, NEW YORK
for the wholesale trade

Sanitary Products

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

IF the officials of the Commonwealth of Pennsylvania are not deliberately giving out-of-state insecticide and fungicide manufacturers the old-fashioned "run-around" in the matter of registration of brands under the new interpretation of the twenty-year-old Pennsylvania insecticide and fungicide law, then they are giving the best imitation which we have ever seen. After examining much correspondence and also having had some of our own with the powers-that-be in Pennsylvania, we cannot see it any other way except that they are deliberately fogging the issue with the object of keeping outside insecticide manufacturers from selling their goods in that state. The situation is working considerable hardship on the smaller out-of-state manufacturers. The people of Pennsylvania, especially its farmers, ought to be particularly pleased that their state officials should tell them what insecticides and fungicides they may and may not buy. What a fine boost for interstate commerce,—especially if next year New York, Illinois, Ohio, and a few other states decide to do the same thing.

MANUFACTURERS should stress the use of high-coefficient disinfectants, and should concentrate more efforts on the sale of these products rather than the lower grades. So states a well-known manufacturer of disinfectants. He points out the actual lower cost of effective disinfection with the higher grade products, and tells of the success which has been secured in England with them. This is an interesting point which has been brought up in previous years in the industry. It is worth further investigation and discussion,—and might well come before the Association meeting to be held next month in Indiana.

COOPERATIVE purchasing of materials is being planned by a local group of pest control operators, we are told. Although in theory cooperative buying is economical and advantageous, in actual practice it just does not work out except in a very small minority of cases. The pitfalls are numerous,—and usually somebody is left "holding the bag." We base this statement on watching numerous attempts during the past twenty years end in failure. We strongly urge the group in question to avoid the attendant headaches,—and forget the scheme.

IF we are to believe what we are told in our travels, there never was a hotel, club, hospital, steamship, or railroad which had an insect problem. According to the spokesmen for these various and sundry organizations, they do not have bedbugs, roaches, or moths. The very thought of such a thing is absolutely out of the question as far as these sensitive souls are concerned. They are so immaculately clean and careful that a poor bug just does not have a chance on their respective premises,—or at least, so they say. So, dear reader, all this insecticide spray and powder which you have been selling them is not to kill bugs. Its use is a secret. Well, maybe we have hit on something new. They must be drinking the liquid insecticide,—and possibly they are using the powders to thicken gravy, or flavor their soups.

. . . railroad market

for SANITARY CHEMICALS

FOR most railroads, large or small, their sanitation problems are either too great to be solved with any degree of success, or are not of sufficient importance to the railroads to warrant greater attention. For it would appear that many stations, particularly the toilets and waiting rooms in the older stations, the ordinary smoking cars, and many day-coaches and their toilets, and other spots in the railroad systems represent about as fine an example of bad sanitary conditions as may be found anywhere. Possibly the railroads do not spend as much money for soaps, cleaners, and sanitation chemicals as they should,—for if they are buying the materials, then they are not being used properly, if at all. Perhaps they do not have to keep things clean and sanitary, and for this reason, consider it a waste of money to do so. Perhaps hard times have hit railroad sanitation maintenance as well as everything else, although conditions were just as bad back a year or two when rail earnings were not being written in red ink.

Apparently the railroads do not like to talk about their sanitary problems and have adopted a program of retrenchment on information as well as on costs,—at least on information pertaining to cleanliness and sanitation maintenance, if the experiences of a reporter for SOAP who sought some first-hand data on this phase of railroading, may be taken as typical. He set out recently to find out what kinds of soaps and cleaners, disinfectants, insecticides, etc., were being used by the railroads, and why. He was sent in and out of offices, from vice-presidents in charge of motive power maintenance to third assistant clerks in supply storerooms. Usually, he was told that "we wouldn't know about that in this department," and with a great show of helpfulness was referred to somebody else. Finally, when he did get to someone who could not pass the buck because he was the last in line, he was told that "the matter would have to be taken up and let you know." That meant starting all over again at the top and working down. After three or four such experiences, the various offices became very familiar even to those large, shiny cuspidors, which have been standard sanitary (?) equipment on railroads ever since the first locomotive.

There were, however, some exceptions to the "pass the buck" attitude on the lists of railroads visited. These were mostly the smaller roads, who seemed, for the most part, willing to discuss their cleanliness and sanitation problems. Nor were they backward about naming the different kinds of soaps, cleaners, disinfectants, insecticides, etc., which they were using. It was the large railroads who refused, or said they were "unable" to give any material information. This difference in attitude can be accounted for, in part at least, by the fact that the large railroads are more cumbersome and more involved organizations, where responsibility is divided in so many ways that it is difficult to locate any one department or individual in possession of enough facts to give an accurate or comprehensive picture of conditions. On the other hand among the smaller railroads, buying is usually concentrated in one department which, although often badly misinformed about many of the products which it buys, as shall be shown at least is in a position to know what is bought and for what purpose it is used.

Also, the difference in the attitudes of the large and small railroads towards their sanitation and cleanliness problems can be traced to the fact that all of the railroads are badly distressed financialy, and consequently, operating costs, including sanitation and cleanliness maintenance, have been cut wherever possible. In the case of the smaller railroads, where $10,000 a year, or less, is spent for soap and sanitary supplies, any reduction is so small that it is not likely to provoke comment. On the larger railroads, however, where the yearly expenditure for soaps and sanitary supplies is ten times the figure, a reduction, although probably not any larger in proportion to that of the smaller railroads, would appear so much larger in actual dollars that it would create an unfavorable impression. Therefore, the whole subject of present-day cleanliness and sanitation maintenance methods by the large railroad companies seems to be one they would rather not talk about. Not even the Association of American Railroads, one of whose chief functions is to promote the best interests of the railroads through effective public relations work, was able to furnish any information on any phase of railroads sanitation and cleanliness problems. The Association reported that "we have no material on the subject," —and did not know where to get any.

A total of eight railroad companies, three large, four small, and the one which enjoys a monopoly on the parlor-car business, was called on

for information during the inquiry. They were asked what their chief sanitation and cleanliness problems were; what methods and what types of products were used to combat them; what was used for disinfecting purposes; what was used for insect control; and for general information on the various types of soaps and cleaners used.

At the offices of the first railroad visited, which was also the largest, it was stated that the company manufactures all of its own soaps, disinfectants and insecticides. Any other information, however, such as details on the manufacture of the products, how they were used, or what they were, was "not available." At the same time, it was inadvertently learned during the course of the interview that the company uses technical cresol compound for disinfecting in its terminals. This came out when a salesman from a concern manufacturing disinfectants called, saying that he had heard that the company had had a number of complaints about a bad odor which was present in one of the suburban stations. The salesman said that he had a disinfectant which would correct the condition. He was told, politely but firmly, that not even if he were a friend of the president of the road (he had mentioned having a friend in some official capacity at the railroad) would it be possible to buy his product since the company manufactures its own, and there were uniform specifications naming cresol compound. When the salesman left, the representative of the railroad admitted that the station in question had been complained about a number of times because of the stench, but in his opinion there was not much that could be done about it. It was, he said, due to the class of people who used the station.

The next railroad visited was far more helpful. In fact it was the only large company that was willing to discuss in any detail the soaps and sanitary products it used. It would not admit, however, that it had a "problem" in the maintenance of cleanliness. Dirt, roaches, moths, bed bugs, etc., were something which had to be contended with, and were taken as a matter of course, just as any other part of railroad operation. As a general cleaner, it uses what it calls "a varnish cleaning soap," described as a "pure, neutral soft soap made from vegetable oils and potash, homogeneous in appearance, of straw or lighter color, and at least slightly translucent." It was stated that this soap must conform to percentage requirements, with regard to chemical composition, as follows: total fatty acids (min.), 70; volatile (max.), 55; total alkaline salts (max.), 0.3; insoluble in water (max.), 1.0. This soap is used mostly for washing down the floors, walls, etc., on the inside of day coaches. Other general cleaners used are a soap stock, described as a bulk, solid soap, made from soda and solid fats, and containing enough moisture to make it quickly soluble in hot water to form a jelly or soft soap, and a chipped soap with similar properties. Both of these soaps, it was stated, must be free from rosin and silicate, and have a titer of not less than 39.

For kitchen use, this railroad uses a yellow bar soap with a rosin content said not to exceed "25 per cent of the weight of the separated fatty and rosin acids." Yellow soaps, it was added, were not acceptable if they had a strong brown, or darker color, or if they left a greasy or sticky film on the surface where they were used. For a scouring powder and scouring cake, intended for use on kitchen utensils and similar articles, the company uses a product described as a mixture of "approximately" neutral soap and a finely ground silicious scouring powder. For the abrasive used in the scouring powders and cakes, it is required that it pass a 100-mesh sieve, and with not more than 25 per cent left on a 200-mesh

Plenty of opportunity here for moths to do their stuff,—plush chairs and heavy carpet in a Chicago Northwest parlor car,—if not controlled by insecticides.

sieve. A polishing powder and cake, similar in composition, is used on silver, nickel, and glass surfaces except that the abrasive is much finer and is said to be free from grit. It is required that the abrasive for it be fine enough so that not more than 2 per cent will remain on a 325-mesh sieve, and that it does not scratch silver or glass.

Three types of toilet soap, a cake toilet soap, a powdered toilet soap and a liquid toilet soap are used. The powder and liquid soaps are used in dispensers. The physical requirements for cake toilet soaps are simply that they are die-pressed to give a pleasing appearance, and are in the form of elliptical cakes with rounded edges, or rectangular cakes with rounded edges and corners. With regard to the chemical composition of cake toilet soaps, it was said that they should contain a minimum of 85 per cent fatty acids, a maximum of 15 per cent volatile matter, a maximum of 0.2 per cent total alkaline salts, and a maximum of 1 per cent insolubility in water.

As for powdered toilet soaps, they are required to be packed in air-tight containers so that they will not cake during storage, and will deliver freely from the dispensers. It was said to be permissible for the manufacturer to add to powdered toilet soap a "moderate" amount of soft, inert, insoluble mineral in order to prevent asking, providing it is entirely free from grit and alkaline substances, and does not exceed 20 per cent of the dried sample. The chief requirement for liquid toilet soap is that it can be cooled to 5 degrees Centigrade, and held at that temperature for four hours without solidifying, gelatinizing, or forming a deposit. All soap purchased by the railroad is inspected and stated to be carefuly tested for the properties which have been mentioned. Soap which does not meet the requirements fully is rejected.

The purchase and use of insecticides and disinfectants by this railroad is not nearly so well informed or organized as is the buying and use of soaps. In view of the detailed specific requirements for soap which were given by the agent in charge of that buying, the contrast was all the more striking, especially in the same organization. It was plainly evident by talking to the agent in charge of buying insecticides that he did not know what to look for in these products. In outlining his purchasing policy, he said that so many insecticide salesman came in to see him with products "done up in pretty packages and made in a one-room factory in some cheap boardinghouse or over an old garage" that he had found the safest policy was to buy from a reputable company that "you knew would give satisfaction." "They're all pretty much alike, anyway," he added, referring to insecticides. He pointed out that ever since he first took over the work of buying (he had said that he had been on the job about a year), he had been trying to standardize on lower prices for all insecticides.

He said that there was still room for improvement, yet he felt that a great deal of progress had been made in that direction. As just one proof of this, he said that when he came on the job a liquid insecticide for roaches costing $6 per gallon was being used. He had substituted another "just as good," costing only $2 a gallon. "So far, we haven't had any complaints," he added, triumphantly.

The list of insecticides which his company purchases at present, and the purposes for which they are used, he said, are as follows: for bed bugs, a liquid spray composed of cyanide and sulfur; for roaches, a powder containing 85 per cent active ingredients made up of pyrethrum and sodium fluoride; and for flies and moths, "any of the *cheaper*, proprietary insecticides." He added that a liquid insecticide was also used for roaches on dining cars, and a "special sleeping car insecticide for bed bugs" on sleepers.

An amusing instance of the way misinformation is bandied about was revealed by the aforementioned buyer at the conclusion of the interview. He said that an insecticide salesman had recently told him of

The newest and most modern type of dining car,—on the N. Y. and New Haven "Bankers' Express"—is kept immaculately clean only by constant attention to numerous sanitary problems.

an "institute" that had been formed, composed of manufacturers of insecticides, and that they had banded together and drawn up a uniform set of insecticide specifications, which they had all adopted. The buyer said that he was interested in knowing what these specifications were, but that the salesman had told him that "you had to pay a good price" to get hold of a copy. (*Free* copies of the N. A. I. D. M. specifications have been sent to the gentleman,—and don't ask who he is! Editor.) It was altogether a complete misrepresentation of the purposes of the specifications and the "institute," implying that this organization is a group of dark-alley conspirators who specialize in ganging up on the consumer.

This was only one of many examples of gross misinformation encountered during the inquiry. A buyer for one of the small railroads, for example, called attention to the fact that the powdered toilet soap which it uses in its dispensers "must have an awful lot of tallow in it, because it burns your hands." The soap he had reference to is a straight cold-process coconut oil soap as might be suspected. And it was another buyer for one of the small railroads who declared that if he had his undisputed way, he would buy yellow laundry soap only for use as toilet soap, washing dishes, etc., because, he explained, "yellow soap has a germicidal quality not found in other soap."

It was hoped that some information regarding the sanitation and cleanliness problems of the Pullman Co., which controls the sleeping car industry, could have been included here, especially with reference to insect control, but up to the present writing, a request for information which was sent to the company's Chicago headquarters has not been received. The Pullman Co. has to cope with the combined problems of a railroad and those of a first-class hotel. In 1937, 13,000,000 persons were bedded down in its sleepers. It spent $1,100,000 for laundering sheets, pillow cases, blankets and towels. It operates 10 laundries of its own at various parts of the country, and has contracts with 25 others, and it purchased 78,000 gallons of soap during the year.

How about the market for sanitary chemicals and cleansers in the dairy, milk bottling plants, and the like? A study and discussion of this market will be published in the next issue of SOAP and Sanitary Chemicals.

All in all, the railroads, with a few exceptions, are not the informed or discriminating group of buyers, judging by the average purchasing agent, that one might expect,—at least as far as sanitation products are concerned. They are prejudiced,—one buyer made no bones about admitting that he bought products made by the manufacturers who were the largest shippers,—and they are misinformed or uninformed on a number of the products, especially on the insecticides which they buy and use. Granting that there is no excuse for anyone to remain misinformed nowadays, at the same time it would appear that right here is an example of a crying need for consumer education and the possibility through education of increasing greatly the volume of sanitary products bought and used by the railroads.

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A metal polish may be made containing 2.1 parts of ammonia soap. This is prepared from distilled olein and ammonia of specific gravity 0.91. The other ingredients include 19.5 parts of water, 1 part of stearin, 2.1 of denatured alcohol, and 6 parts of Neuburger chalk. The stearin and olein are melted together at 60°C. (140°F.), the alcohol added, the chalk stirred in and saponification carried out after addition of water, by means of ammonia. *Seifensieder-Ztg.* **65,** 115 (1938).

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A body polish for automobiles contains a fine abrasive material, a light mineral oil, bloom castor oil, a mineral absorbent for the oil, a small amount of a gum as thickener, a small amount of alcohol as solvent and dispersing agent, and at least 50 per cent of water. Arthur L. Blount and Marcellus T. Flaxman. Canadian Patent No. 371,508.

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The Buyer Looks at FLOOR WAX SPECIFICATIONS

By J. C. Booser

CHEMICAL specialties from their very inception have usually been cloaked in mystery, and too often surrounded by a maze of extravagant claims. It is this chiefly which has compelled users as time goes on to establish in self defense yardsticks to evaluate properly the intrinsic merit of the various products. Floor waxes have been no exception in this situation, and consequently some attempts have been made, and are being made to evolve and apply a practical method for their evaluation.

The yardstick usually resorted to is a specification based on more or less arbitrary but definite standards of quality. Some chemical specialities lend themselves rather readily to a specification, but floor waxes are difficult to handle in this manner. The major difficulty is that the blending of waxes is quite an art, and any undue restriction imposed by a specification may be highly undesirable. Unfortunately broad requirements incorporated in a specification which permit any considerable latitude in blending, admit too much potential variation in the performance quality of the finished floor wax. There are other obstacles too, such as the lack of standard methods for identification of the kinds and grades of waxes in a blended floor wax, and also the inadequacy of such existing test procedures for determining performance characteristics of floor waxes.

Users of floor waxes who are aware of these facts may well question the adequacy of existing specifications as a medium for procuring satisfactory products, and in the light of some recent experience derived from the purchase of the three common types of floor wax, water emulsion, paste, and liquid volatile-solvent type, this question appears to be entirely in order. Since this experience will undoubtedly be of interest to most manufacturers, jobbers, and purchasers of floor wax, because it illustrates vividly some of the difficulties that are likely to be encountered when buying under existing specifications, a brief description will be included. In all of the instances cited, the competitive system of purchasing prevailed, wherein the specification is a highly important factor, and must be absolutely right in order to insure the procurement of satisfactory material.

The first purchase to be discussed covered water emulsion floor wax and the following specification applied.

1. The material desired shall be a true water emulsion of a light cream color.

2. The wax shall be a perfect emulsion that will not separate or thicken under normal storage conditions, and shall consist of the following materials.

	Minimum Per Cent	*Maximum Per Cent*
Carnauba Wax No. 1	11.0	14.0
Shellac	....	2.0
Emulsifying Agent	....	6.0
Water	....	Remainder

3. The finished wax shall have no objectionable odor.

4. The wax upon drying shall leave no unvolatilized alkali which might injure the flooring.

5. The wax shall be such that it can be applied easily, leaving a resilient transparent film which can be brought to a high polish with but a light buffing.

6. The wax shall dry completely within twenty minutes under normal room temperature and humidity.

7. When applied to unfinished linoleum and after immersion in water, the wax shall show no whitening, cloudiness, opacity, or impairment of adhesion; and shall take a polish upon light buffing comparable to the original polish before immersion.

8. The total alkalinity shall not exceed 0.5 per cent calculated as Na_2O, and there shall be no free alkali present in the wax.

9. The total solids shall be not less than 11.0 per cent.

10. The wax content of the water emulsion wax shall have the following characteristics.

	Minimum	*Maximum*
Melting point	83°C.	87°C.
Saponification number	78°C.	88°C.
Iodine number	13°C.	14°C.

This specification was applied to one purchase and the material delivered was found to conform to all the requirements excepting two which could not be accurately determined. These two were the grade of carnauba wax used, and the amount of shellac. The price paid for the floor wax indicated that all No. 1 carnauba could not have been used. A method for determining the shellac content had been devised when the specification was drawn up, but this turned out to be unreliable.

Despite these two uncertainties the wax was accepted and a careful comparison in actual use indicated that it was just as satisfactory as a proprietary product previously used. Later developments proved however that the comparative success of this first purchase to a specification was due more to good luck than a good specification.

Concurrent with this purchase the specification was submitted to floor wax manufacturers for comment, and five out of eight firms stated that it was practical and would be acceptable to them from the standpoint of potential bidders. There was some adverse comment due to the rather restricted formulation specified, but the lack of dependable performance test procedures to protect the purchaser under more open formulation, influenced the adoption of the specification retaining this restricted formulation. It was fully realized at the time of adoption that the specification probably did not cover the very best water emulsion wax obtainable, but rather established a standard of quality that would give generally satisfactory results to the using agencies. Then, too, the formula was open and any manufacturer could bid upon such a wax, obviously a necessary feature of a fair specification.

Encouraged by favorable comments from a majority of the manufacturers approached, and by the good results obtained through the initial purchase under this specification, it was decided to make another and larger purchase in the same way, taking additional precautions to avoid questions regarding grade of wax and amount of shellac in the delivered material. Samples with the bid were called for in order to determine whether the vendors intended to furnish materials complying with the specification insofar as the requirements, other than grade of wax and shellac content were concerned.

Out of nine samples submitted only one was found to be acceptable. Six failed to meet the water immersion requirement, one contained free alkali, and the other did not conform to the range established on the saponification number. In order to assure compliance of the acceptable product in regards to the grade of wax and shellac content, plant inspection at time of manufacture was resorted to. This inspection plus subsequent tests disclosed that the material supplied conformed with all the requirements of the specification.

Upon checking this second delivery after it was put into use, one user expressed the opinion that somewhat better products could be obtained by selection from some of the proprietary brands found on the open market. In the absence of performance tests that can be relied on accurately to forecast results in actual use, it is impossible to confirm or refute this opinion. The tendency is to give the user the benefit of the doubt and confirm it.

All of the foregoing indicates that the restricted formula type of floor wax specification leaves much to be desired. First of all, it places the ultimate selection of the proper formula upon the specification writer, whereas the manufacturer is better equipped to take care of this angle. Further, it necessitates plant inspection in order to determine certain requirements, which in some cases is too costly, and takes too much time, besides being a distinctly unwelcome procedure to some manufacturers. Lastly, it does not eliminate performance requirements and their accompanying bugbear, correct test methods.

IN the interim between the two purchases of water emulsion floor just cited, Federal Specification P-W-141 was issued, and when the second purchase of the water emulsion wax was decided upon, quantities of paste and liquid waxes were included, using this specification. Again the experience with these specifications proved to be disappointing.

In the case of the paste wax, only one of eight samples submitted with bids was found to meet the specification. Three of the products dried too slowly, one failed on the flash point of the vehicle, two did not meet the requirement covering the saponification value and acid number of the solid content of the floor wax, and one had an insufficient degree of gloss. The material subsequently delivered met the specification, but like the water emulsion wax was classified as only fairly satisfactory by one of the using agencies, after being put into use.

The liquid wax samples submitted with bids were seven in number, one of which met the specification. Four failed to meet the settling requirement, one flashed too low, and one failed on the saponification value requirement. Plant inspection during manufacture of the acceptable product disclosed the fact that considerable water was incorporated in the formula in combination with the volatile solvent. This raised a question as to the proper interpretation of the vehicle requirement in the specification, since it does not state that the vehicle must consist entirely of volatile solvents to the absolute exclusion of water.

The difficulties encountered during these purchases were of such magnitude as to cause the temporary abandonment by the purchasing agency of all floor wax specifications. The factors which influenced this decision were (a) the apparent inability of vendors to meet the specifications, (b) doubt as to whether all products meeting the applicable specifications would satisfy the standard of quality desired, (c) question as to the reliability of the test procedures in the hands of the average chemist not trained in wax technology, and (d) lack of definite knowledge on wearability and non-slipperiness factors, two important features not covered by any of these specifications.

It must be stressed at this point that the experiences of this one purchaser are not advanced as absolute proof that floor wax specifications, generally available at present, are entirely inadequate. In fact it appears that several such specifications are being used in certain quarters with at least some degree of suc-

cess which certainly indicates that some advance has been made in evolving a means of evaluating these products. On the other hand let us not overlook the real value to be derived from such experience which very definitely points out some inherent faults and limitations of existing specifications, and what is even more important, indicates the obvious course to pursue in correcting these shortcomings.

IN approaching this problem of evolving satisfactory specifications for floor wax, the first important factor to consider is that this commodity is but one of several allied materials that are used in the maintenance of various kinds of floors. As such, their relation to these other materials which include cleaners, sealers, and undercoaters must not be overlooked. The logical starting point then for floor wax specifications seems to be as a part of a complete floor treatment system applicable to the different kinds of floors that must be maintained. This fact has already been recognized, as witness the floor maintenance material specifications of the United States Treasury Department, New York City, and some of the various flooring associations. This all simmers down of course to one factor which is, correct usage of the material, and in the case of floor waxes this factor can be effectively controlled in two ways, first, by inclusion of wax specifications in a group of specifications on floor maintenance materials, accompanied by complete instructions for use, and secondly, if the wax specifications cannot be included in such a group, a section should appear in each specification outlining the use for which the particular wax is intended, and also a requirement that each package be labeled with full instructions as to the proper preparation of, and application to, the various kinds of floors for which the wax is suitable.

The present trend in floor wax specifications is to avoid too restricted formulation by allowing quite a broad range on certain characteristics in the solid content of the floor wax. By so doing, the blend of waxes that can be used is supposedly confined to combinations that will produce only good products. At the same time, the manufacturer is allowed a rather wide latitude in the choice of raw materials. It is problematical whether this principle is effective. In the light of present knowledge on waxes, there exists some doubt on this point, and looking ahead to the advent of new waxes, emulsifying agents, and vehicles, it will be hopeless for the purchaser to protect his interests under this type of specification, especially with the present wholly inadequate performance requirements and tests.

This brings us to the heart of the problem, an adequate performance requirement and methods of tests to cover this. Floor waxes should be purchased on the basis of their performance regardless of formulation. This would leave the art of formulation entirely open to manufacturers, which is as it should be. The purchaser should either set up definite standards of quality in the form of a specification, or use a system of comparative evaluation by performance which will not only assure a product of the required standard of quality, but will also make it possible to select the one that will be most economical in use.

AN adequate specification for floor wax based on performance must contain requirements bearing on such factors as, ease of application, ease of removal of old wax, ease of polishing, coverage, drying time, degree of gloss, freedom from streaking and blushing, cold water solubility, resistance to water marring, degree of color imparted to surfaces to be finished, transparency, non-slipping characteristics, wearability, freedom from deteriorative effect on materials for which it is intended, separation tendencies of the component parts, consistency, and flash point of volatile vehicles when used. A few of these are adequately covered in present specifications, as for instance flash point of vehicle, and the separation of component parts in liquid wax. Most of them, however, present problems as yet unsolved.

The presentation of a hypothetical test procedure may serve to stimulate thought on the subject of devising proper test apparatus and methods. In this hypothetical test, the first step would be to determine the most apparent factor, appearance of the product, particularly as regards any tendency toward separation. Observation of any breaking of the emulsion in a water wax, an undue amount of settling of the solids in a solvent liquid wax, or definite separation of vehicle from solids in a paste wax would cover this point.

The next step would be to apply the wax to test pieces of the various flooring materials for which the wax is intended. This should be done mechanically in such manner as to reproduce either or both actual hand and mechanical application in use. Ease of application should be measured, then drying time, tendency to streak and blush, and coverage, determined in the order named. After this mechanical polishing simulating either or both hand and mechanical operations in actual use provides a means of measuring ease of polishing. Degree of gloss, transparency of film, non-slipping characteristics, resistance to water, etc. could be determined in the order named on this same polished test piece. The last two tests should be confined to about one-fourth of the surface of the test piece.

If the wax under consideration passes these tests, one half of the test pieces should be subjected to a wearability test that mechanically reproduces actual wear in use. Measurements made at suitable intervals will determine resistance of the wax to wear. The other portion of each test piece is subjected to an accelerated test designed to measure deterioration tendencies on each kind of flooring.

The final determination would be for the ease of removal of the

(*Turn to Page* 127)

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Biological Factors in PEET-GRADY RESULTS

By A. C. Miller and W. A. Simanton
Gulf Research & Development Co.

THE Peet-Grady method was adopted in 1932 by the National Association of Insecticide and Disinfectant Manufacturers as the official method for evaluating liquid household insecticides. Since that time, the extensive use of the method by a number of laboratories has led to modifications, chiefly toward the improvement of the test equipment. It has been only within the past year that detailed investigations have been conducted for the purpose of studying the biological factors influencing Peet-Grady test results.

At the June, 1936, meeting of the Association, Murray (1) reported an extensive series of tests in which he demonstrated the marked difference in susceptibility of male and female laboratory-reared houseflies to a pyrethrum spray. A modified Peet-Grady method was employed for these tests. The data presented indicated the greater uniformity obtainable when the test results were based on sexed flies. These studies also pointed out the marked variation in sex ratio of successive lots of flies liberated from a single stock cage. The effect of fly age on the susceptibility of male and female laboratory-reared houseflies was studied by Simanton and Miller (2) who used the standard Peet-Grady technic. It was shown that the susceptibility of the two sexes to a pyrethrum spray was similar for a few hours after emergence. A marked difference in susceptibility developed before 48 hours and remained rather uniform thereafter. In a recent publication, Murray (3) has reported the relative susceptibility of male and female houseflies to sprays containing various amounts of pyrethrins as determined by his modified Peet-Grady test.

This paper reports a series of investigations conducted in an attempt to gain additional knowledge of the biological factors that influence Peet-Grady test results.

Culture Susceptibility

The writers were of the opinion that a study of curves showing the toxicity of pyrethrum sprays to the housefly might indicate factors causing evaluations on a given sample to disagree. Figure 1 presents toxicity curves showing the mortalities obtained when groups of flies from several cultures were sprayed with insecticide samples differing only in pyrethrin content. The standard Peet-Grady procedure was followed in making these tests. To avoid the possibility of contamination from previous sprayings, the chamber walls were cleaned with a solvent after each test, and new paper was used on the floor. The flies were reared on Richardson's medium, and all were from three to five days old at time of testing. All tests on a given culture were made on the same day. Insecticide samples were prepared by diluting an assayed extract with a deodorized fly spray base.

Each curve in Figure 1 represents the kills obtained by testing various strength samples against successive lots of flies liberated from a single stock cage. The mean kills of all cages are shown by the broken line. The points on the graph are the 24-hour mortalities adjusted to a 50:50 sex ratio. Mortalities were calculated to the 50:50 sex ratio by adding one-half the per cent male kill and one-half the per cent female kill.

An examination of Figure 1 shows that mortality points obtained with the 80-mg. insecticide exhibit wide variability in their relationship to kills on the same cultures obtained with the 120-mg. sample. Within this small central portion of the toxicity curve lie the kill figures for the majority of fly sprays marketed at the present time.

As the mortality points have been based on the kills of sexed flies, the diverse relationships of the kills may be considered as being due to culture differences and to fluctuations caused by a variety of unknown factors including technic errors. Thus it is shown that there is considerable disagreement in test results due to factors other than those compensated by sexing the flies. It may be observed that in Figure 1 the several cultures exhibit various degrees of susceptibility which are more or less in the same relative order throughout the toxicity range. These different susceptibilities are indicated by the relative vertical placement of the curves.

During the course of the investigations, a graph similar to Figure 1 was prepared in which the mortality points were based on unsexed kills. The curves in that graph were very irregular, the lines exhibiting such variation in slope between adjacent points that culture susceptibilities were not distinguishable.

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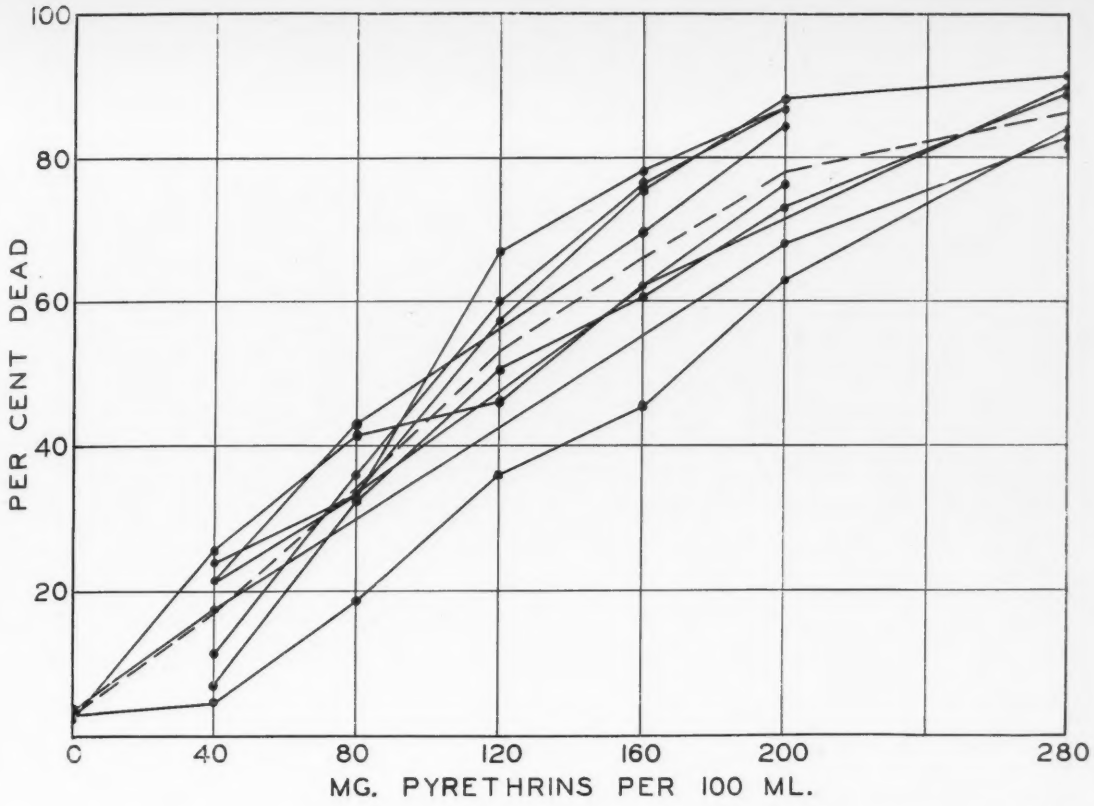
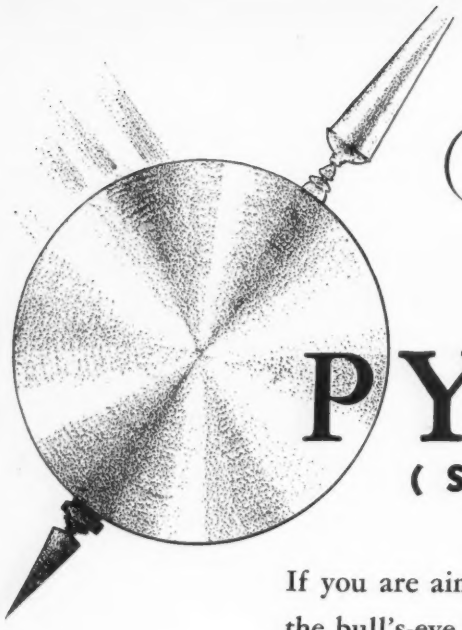


Figure 1—Housefly mortalities obtained with applications of pyrethrum sprays by the Peet-Grady method. Each curve represents tests on a single culture. Mortality points have been adjusted to a 50:50 sex ratio.

When the Official Test Insecticide is used in evaluating an unknown sample, the insecticidal efficiency of the sample is expressed in points plus or minus between the per cent kill of the unknown sample and that of the Official Test Insecticide. It may be observed that there would be little difficulty in evaluating samples as long as the slope of the toxicity curve for a given culture paralleled the slope of other cultures. Such a condition of paralleled slopes is illustrated in the 120- to 200-mg. range of Figure 1.

It is a well known fact that cultures reared under controlled conditions are seldom identical either with regard to general culture susceptibility (relative ordinate placement) or to susceptibilities within a given portion of the toxicity range (slope). While the Official Test Insecticide tends to correct for general differences in susceptibility between cultures, it does not compensate for the erratic changes in slope of the toxicity curves as illustrated in the 80- to 120-mg. range of Figure 1. Why there should be such inconsistency in the slopes within the 80- to 120-mg. range and not within the 120- to 200-mg. portion of the toxicity curves is not known. It might be presumed that the several cultures contained unequal numbers of flies exhibiting various degrees of susceptibility, and that such variation in numbers determines the proportion of flies that are affected by the median lethal dosage.

Figure 2 presents a purely theoretical conception of the manner in which the slope of toxicity curves for various cultures may affect the evaluation of the unknown sample. The portions of the toxicity curves of cultures A, B, and C that were used in evaluating the 120-mg. sample are shown on the graph. The O.T.I. mortalities have been fixed at the same level, that is 46 per cent. Thus, depending upon which culture was used for the evaluation of the 120-mg. sample, it would have been possible to obtain a point difference of +4, +6, or +4. It can be assumed that the mean difference of +8 as shown by the dotted line is the true evaluation. Obviously, the correct evaluation would have resulted from tests on a single culture if the culture used had the same slope as the mean. As it does not seem likely that a practical means will be found for controlling the slopes of the toxicity curves, it appears that the use of average kill differences obtained from tests on two or more cultures would tend more nearly to approach the true value than tests on a single culture. It is also probable that evaluations based on the mean toxicity curve of one laboratory would be in better agreement with evaluations based on



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the mean toxicity curve of another laboratory than would ratings based on a single culture from each laboratory.

Since the O.T.I. does not correct for the different slopes of toxicity curves, it would appear advisable to specify the number of cultures to be used in evaluating a sample. In the past, comparisons have been made in which one laboratory's evaluations based on single culture have been given equal weight with another laboratory's ratings based on two or three cultures.

Test Population

Another possible source of error not compensated by the use of the Official Test Insecticide is the variability in the selection of the test population. Under the present system of testing, no effort is made to assure that flies used in a given series of tests are representative of the total population of the culture employed. Often tests on the first 50 per cent of the flies emerging from one culture have been compared with tests on the last 50 per cent of another culture. No data are available at the present time to show the susceptibilities of various portions of a given culture after the effect of sex susceptibility has been taken into account. For this reason it would appear advisable to specify the testing procedure to assure the use of a truly representative sample of the culture.

Male and Female Susceptibility

In order to provide further information on the relative susceptibilities of the male and female flies to various strength insecticides when tested by the regular Peet-Grady test procedure, the data obtained in a previous series of tests are presented in Figure 3. Figure 3 is based on the same data as Figure 1, the middle curve of Figure 3 being identical with the mean curve of Figure 1.

It is interesting to compare the male and female curves of Figure 3 with the curves presented by Murray (3) who employed a modified Peet-Grady procedure. Murray's data agree closely with those presented in this paper. The male curve is nearly identical, whereas the female curve is consistently lower than that shown in Figure 3. It seems probable that the lower kills of Murray's female curve are caused by the shorter exposure period.

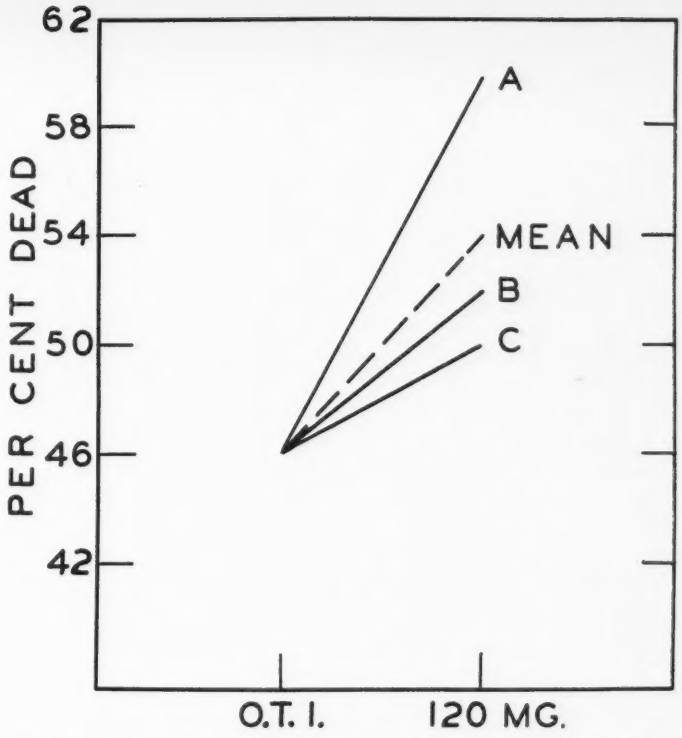


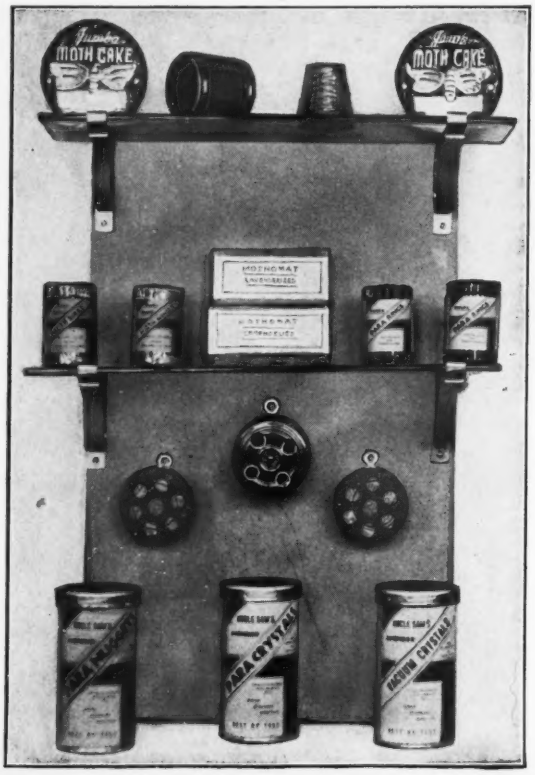
Figure 2—The effect of variation in slope of toxicity curves for different cultures on sample evaluations.

It has been suggested that the kills be determined for each sex and reported separately. Such a separate treatment of mortality data might result in considerable confusion in actual use, because there is no assurance that male and female susceptibilities are uniformly related from culture to culture. With separate treatment, it would not be possible to use only one figure to indicate the killing performance of the insecticide. Two laboratories might agree on the male kill rating but disagree on the female kill rating. A rating based on male kills would not be comparable to a rating based on female kills, because, as is illustrated in Figure 3, the slopes of male and female mortality curves are not parallel for insecticides of different potencies. This contention is further supported by some unpublished data obtained from cooperative tests on sexed flies. Individual reporting of male and female kills necessitates sexing of the flies, a tedious procedure which should be eliminated if possible.

The calculation of toxicity on the basis of 50:50 sex ratio provides a means of expressing the insecticidal efficiency of a sample as a single figure. With this method of reporting evaluation, the sexing of flies could be avoided, if it were possible to produce test units containing 50 per cent males.

Importance of Sex Ratio

The importance of sex ratio has been indicated in several papers (1, 2, 3) and in the previous discussion. To look further into the problem of sex ratio, it is interesting to observe what effect the variable sex ratios often encountered in the present testing procedure, may have on sample values. Employing the data of Figure 3 in an illustrative problem, the importance of sex ratio is easily demonstrated. It will be noted that the O.T.I. gave a male kill of 70 per cent and female kill of 20 per cent



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with a 50:50 kill of 45 per cent. The 140-mg. sample gave male and female kills respectively of 86 and 34 per cent with a 50:50 kill of 60 per cent. Using the above kill figures on the basis of 50:50 sex ratio, it is observed that the 140-mg. sample has a value of +15. If, however, the O.T.I. sex ratio was 45 per cent males and the sample sex ratio was 55 per cent males, the sample value would be +20.1. On reversing the above O.T.I. and sample sex ratios, that is, 55 per cent and 45 per cent males respectively, the sample would show an evaluation of +9.9. Since differences in sex ratios between O.T.I. and sample populations as great as 10 points are not uncommon with the present system of testing, it is obvious that evaluations not based on equal numbers of the sexes would result in highly variable ratings. It may be generalized from the above example that in a given series of tests within the 100- to 140-mg. range, there results from each point difference in sex ratio between the O.T.I. and sample populations an error of approximately plus or minus .5 point from the true sample value.

Again employing the data of the previous problem, it is interesting to compare tests on a culture having 70 per cent males with identical tests on cultures having 50 and 30 per cent male sex ratios. Assuming that the sex ratios of the O.T.I. and sample populations are the same for a given series of tests, the ratings obtained are +15.4, +15.0, and +14.6 respectively for tests on cultures having 70, 50, and 30 per cent males.

Considering the examples given above, it would appear the sex ratio of a culture is of little importance as long as the test populations against which the O.T.I. and sample kills are determined are identical with regard to sex ratio. Of course, a sufficient number of flies of both sexes must be present in the individual lots tested to give sound data.

Sex Ratio of Cultures

With the importance of sex ratio demonstrated, an experiment was undertaken to demonstrate the sex ratio of flies from laboratory cultures. Eleven culture jars, totaling 18,440 flies, were selected at random over a period of several weeks, all flies emerging in each jar being sexed and counted. The percentage of males emerging from each culture was 52.4, 49.6, 51.6, 51.9, 51.4, 50.2, 50.8, 53.5, 51.0, 52.3, and 51.2, with a mean of 51.4. The above series is arranged according to the number of flies in the culture jar, the largest group (2884 flies) showing 52.4 per cent and the smallest group (620 flies) showing 51.2 per cent males. In view of the fact that less than 2 per cent of the flies failed to emerge, it is reasonable to assume that 51.4 per cent males is a good estimate of the sex ratio of laboratory-reared *Musca domestica*. A similar slight excess of males is com-

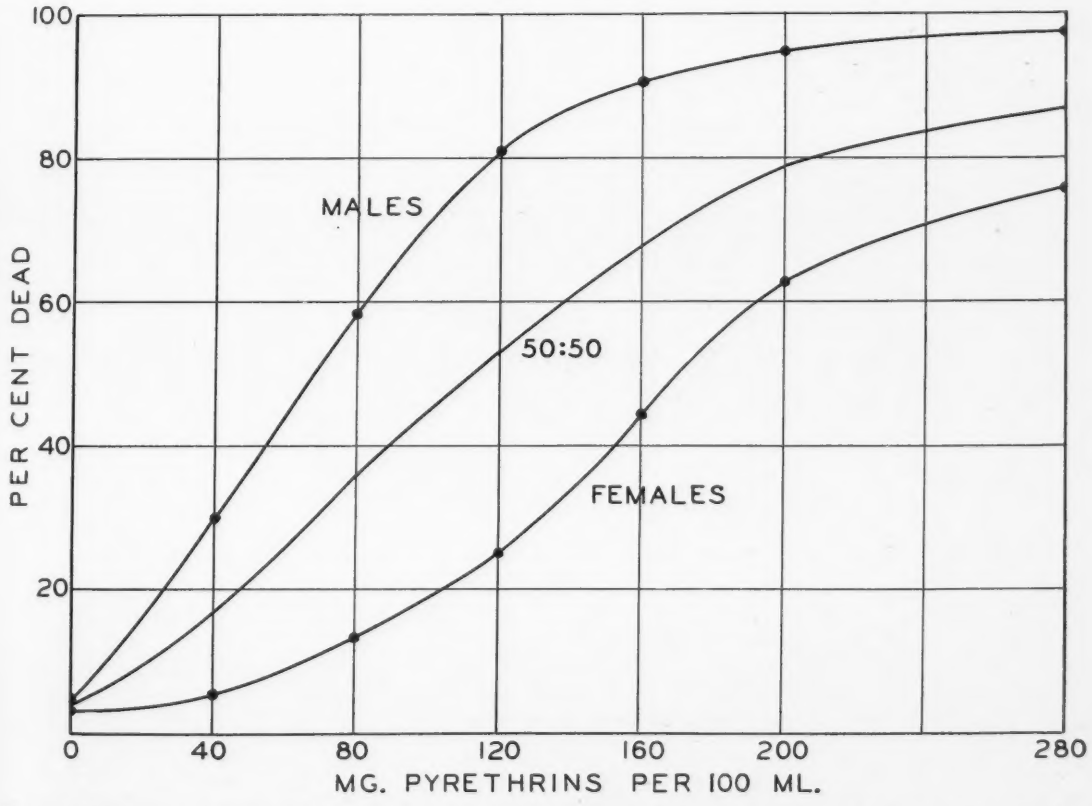

Figure 3—Concentration-mortality curves for male and female houseflies obtained by the Peet-Grady method employing paper on the chamber floor.

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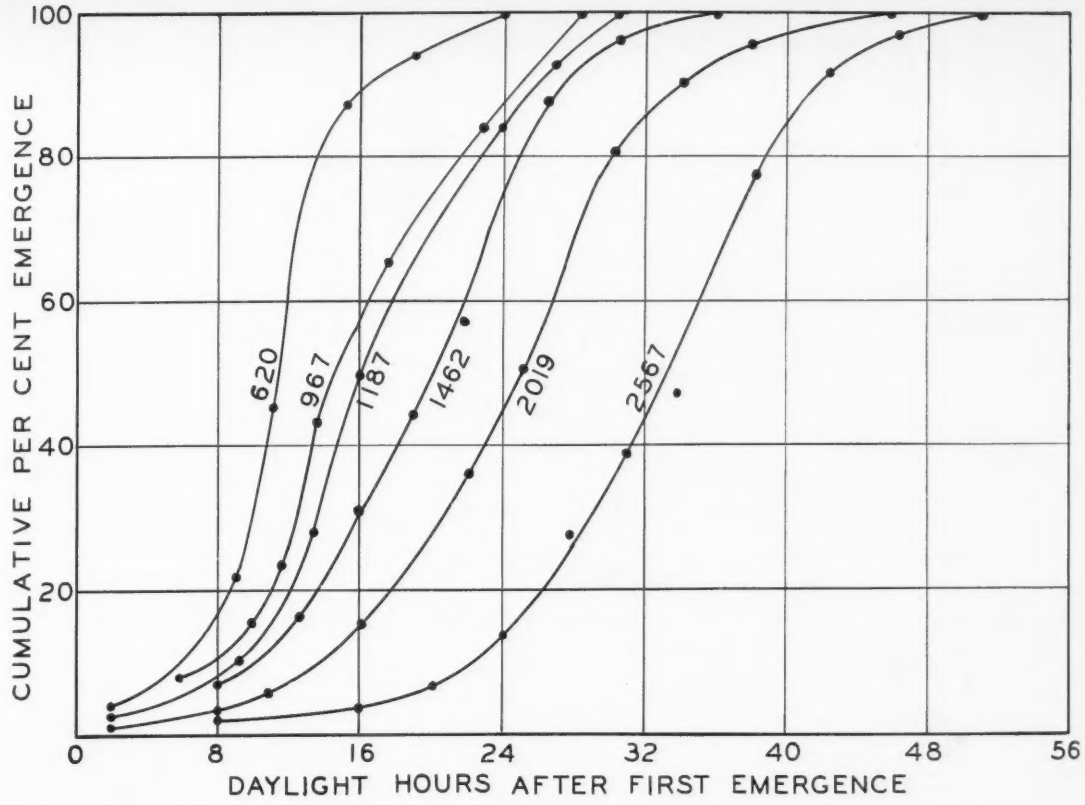

Figure 4—Effect of crowding housefly cultures on duration of emergence period.

mon in sex ratios of many animals, including man.

Emergence of Cultures

Knowledge that the sexes are produced in quite uniform numbers indicated the advisability of studying the emergence characteristics of the cultures. An experiment was made in which flies from each of eleven culture jars were removed at intervals throughout their period of emergence. These groups were sexed and counted, the resulting data being presented in Figures 4 and 5.

It had been observed previously that flies in crowded culture jars emerged later and over a longer period than did flies in light cultures. It was also noticed that flies in the unlighted rearing room did not emerge to an appreciable extent during the night. With these facts in mind, emergence records from six of the eleven jars, selected to cover the range of light, medium, and heavy cultures, were plotted against daylight hours after first emergence, as shown in Figure 4.

Light cultures usually contain from 800 to 1300 flies, medium cultures from 1400 to 2000 flies, and heavy cultures from 2100 to 3000 flies. Under culture room conditions at 80°F., light cultures reached peak emergence on the tenth day after preparation, medium cultures on the eleventh day, and heavy cultures on the twelfth day. All cultures began emergence on the tenth day. As is shown in Figure 4, the emergence periods cover approximately two, three, and four days respectively for light, medium, and heavy cultures. These culture jars were prepared by placing 200 cubic inches of damp Richardson's medium in a 6x9 inch cylindrical battery jar.

Figure 5 is based on data obtained from the eleven culture jars used in the emergence studies. The graph shows that the first 10 per cent of the flies are about 65 per cent males, while the last 10 per cent emerging are about 40 per cent males. In general, it may be noted that the first 50 per cent emergence is comprised mostly of male flies, the next 20 per cent contains males and females in approximately equal numbers, and the remaining 30 per cent consists largely of female flies.

Considering the data from emergence and sex ratio studies, it is apparent that if all flies from a culture jar were transferred to one stock cage the sex ratio within that cage would be approximately 50 per cent males. Then, if only medium cultures were used, on the fifth day after peak emergence the stock cage would contain about 25 per cent four-day old flies, 50 per cent five-day old flies, and 25 per cent six-day old flies. The writers have shown in a recently published paper (2) that there is little difference among the susceptibilities of four-, five-, and six-day old flies. It would thus be possible to prepare stock cages varying little in sex ratio and containing flies of approximately equal susceptibility as far as the age factor is concerned.

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Sex Ratio of Test Groups

As it has previously been shown (1) that considerable variation exists between the sex ratios of successive groups of flies liberated from a stock cage, it was thought desirable to study this problem further, employing stock cages in which the sex ratio was approximately 50:50.

In Table I are presented data from several cages showing the sex ratios of ten successive lots of approximately 100 four- to six-day old flies liberated from the ordinary stock cage for test purposes. The ten stock cages contained an average of 1131 flies and had sex ratios between 46.2 to 50.6 per cent males, with an average male sex ratio of 48.6 per cent.

TABLE I.

Sex Ratio of Successive Small Groups of Flies Liberated from Stock Cages

Cage	% Males in Cage	Total Flies	% Males in Successive Small Groups Liberated from Stock Cage 1	2	3	4	5	6	7	8	9	10
A	48.7	1641	65	52	55	46	52	50	39	35	40	53
B	49.3	1166	69	47	58	48	44	45	43	46	43	50
C	48.5	1042	60	43	61	41	47	46	43	47	37	60
D	50.6	1202	54	55	56	62	57	56	37	44	38	47
E	48.1	1070	47	51	58	44	49	53	48	43	38	50
F	49.1	1070	62	53	53	43	49	55	37	36	49	54
G	46.2	1033	52	49	44	42	48	52	37	31	54	53
H	48.6	1029	61	61	53	50	43	46	60	40	33	39
I	48.7	1054	66	50	56	54	46	54	56	39	29	37
J	48.7	1000	52	43	50	60	56	48	57	44	46	31
Mean...	48.6	1131	58.8	50.4	54.4	49.0	49.1	50.5	45.7	40.5	40.7	47.4

An examination of the data in Table I shows that there is a general downward trend in the proportion of males in successive small lots of flies liberated. Considering each culture separately, it will be noted that there is no consistency in the downward trend and that with the exception of tests 1, 8, 9, and 10 the sex ratios are very erratic. The first lot liberated contains a preponderance of males in most cases. Lots 8 and 9 generally contain an abundance of females. The last group liberated usually contains a higher proportion of males than the next to the last test, probably due to the small proportion of lethargic and crippled males that are difficult to remove from the stock cage. Some investigators have adopted the practice of discarding the last several hundred flies in the stock cage, but this practice does not lead to the use of a truly representative sample of the reared population. Because of the great effect erratic sex ratios of test groups may have on the sample evaluations obtained, it is apparent that either the flies should be sexed following testing or the sex ratio of the test groups should be controlled within a rather narrow range.

Summary

The effect of certain biological factors on Peet-Grady test results have been studied. Data and discussions have been presented to illustrate the extent to which variations in sex ratio, differences in culture susceptibility, composition of test population, and certain other biological phenomena may become sources of error in evaluating fly sprays. Many of the findings here presented have been used as the basis for a current paper by the writers (4) in which a modification of the Pet-Grady method enabling greater speed and accuracy, is described.

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Saturated hydrocarbons have low solvent power for rotenone. Unsaturated compounds are fairly good solvents. This may explain the difference in solvent power of two grades of kerosene which were tested. In general the solvent power of terpenes is low; that of benzene derivatives, ketones, esters, benzaldehyde, cresol and pyridine is high. Methylene chloride has the highest solvent power. Addition of chlorine sometimes improves solvent power. Some of the solvents formed solvates with rotenone under certain conditions. Howard A. Jones and Solomon Love. *J. Am. Chem. Soc.* **59**, 2694-6.

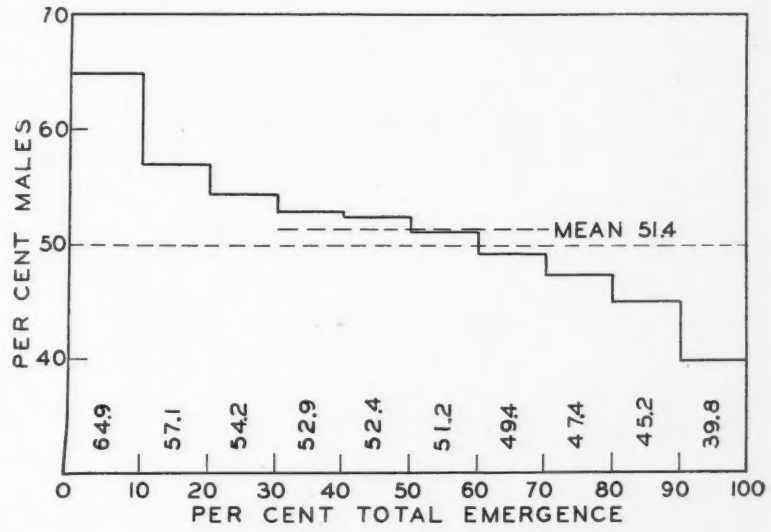

Figure 5—Sex ratio of consecutive 10% portions of culture emergence.

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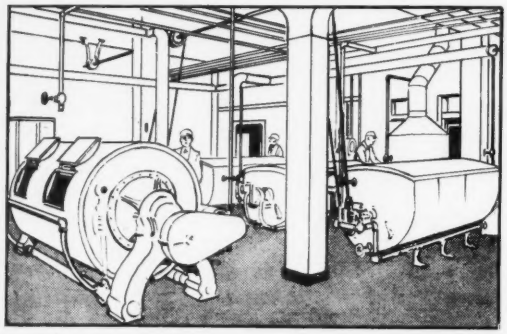

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This enamel when compared with other white enamels is outstandingly whiter. It is snow white and stays white.

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SANITARY — WASHABLE

Leaves a tough, durable, non-porous film that dirt, grease, alkali, etc., will not penetrate. It resists wear to a remarkable degree and is truly sanitary.

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Provides a gorgeous lustre of great depth. A most handsome, smooth, brilliant, extremely white finish is assured when you use Sani-Surf.

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Greater Speed and Accuracy with Modified PEET-GRADY METHOD

By W. A. Simanton and A. C. Miller

Gulf Research & Development Co.

ANOTHER paper by the authors published elsewhere in this issue[1] presents a discussion of several biological factors that may influence test results obtained by the Peet-Grady procedure[2] now in use. It has been shown that, because of the greater susceptibility of male flies, it is necessary to compensate for the variable sex ratios among test populations if fly sprays are to be accurately evaluated. It is also necessary to take into account the differences in susceptibility of various housefly cultures and to provide for the use of a truly representative portion of the culture for test purposes.

With the possible exception of differences in culture susceptibilities, it appears that the difference between the sex ratios of the populations against which the reference liquid and the sample are tested is probably the largest source of variability. As has been demonstrated (1), the rating of a sample is usually in error by about one-half point for each point difference between the sex ratios of the two test populations. One way to keep the sex ratios the same is to run a large number, possibly 20, of paired replications; another way is to sex all the flies tested, calculate the kills separately for each sex, and then adjust mortality data to a common sex ratio. Both of these methods require considerable time and effort and probably would be unsuitable for routine use. An easier way is to obtain approximately 50 per cent males and 50 per cent females in each stock cage by preserving the inherent sex ratio of the reared cultures and then use all flies in the cage as a test unit.

The use of the Official Test Insecticide as a basis for comparing samples appears to be quite satisfactory for compensating differences between laboratories due to various rearing technics and to slight variations in testing equipment and procedures. The reference insecticide also corrects for general culture differences; that is, it provides a basis for determining the relative susceptibilities of various cultures to an insecticide of known strength. It does not, however, indicate the relative susceptibilities of cultures to insecticides of various strengths, because the slopes of the toxicity curves for various cultures do not vary uniformly and the O.T.I. locates only one point on the curve. One way to secure a representative evaluation is to base the rating on a mean toxicity curve obtained by the replication of paired tests on several cultures.

Considering certain heretofore unknown sources of variation, the writers have devised a modification of the Peet-Grady method. The modified method takes into account variations in sex ratio without necessitating the sexing of flies. It also corrects certain other sources of variation not compensated by the method now in use. A description of the procedure follows:

The Large Group Modification of the Peet-Grady Method:—

1. Three battery-jar cultures are prepared at the same time, each receiving sufficient eggs to produce between 1300-1700 flies per jar. With jar populations not exceeding 1700, all larvae tend to pupate on the same day.

2. As soon as all larvae have transformed into dark-colored pupae, the top layer of rearing medium is removed, the exposed pupae then being brushed into a cafeteria tray. The material on the tray usually comprises about half pupae and half medium.

3. The tray is placed in a fan blast until the pupae-medium mixture is moderately dry. Then the tray is tipped toward the fan blast and the mixture stirred upward with a card. The pupae roll down the tray, while the medium is held at the top of the incline. Five thousand pupae may be separated by this method in about twenty minutes.

4. The separated pupae from the three jars are gently but thoroughly mixed, then carefully weighed into groups of 500 each. Each group is placed in a shallow dish, and the dish is then placed in a screen cage fitted with a sleeve opening. The cage has a capacity of about one cubic foot, has a floor area at least one square foot, and is equipped with a removable wooden floor.

5. The flies are held for five days after peak emergence, during which time they are supplied with fresh milk daily. On the fifth day, the tests are run in the Peet-Grady chamber according to the usual procedure, with the exception that 500 flies are sprayed at one time. All flies in one cage are sprayed with the Official Test Insecticide. During the ten-minute exposure period, the cage is cleaned and made ready to receive the paralyzed flies. In a similar manner, one cage is used for each unknown sample in the series to be evaluated in comparison with the O.T.I.

6. The number of "up" flies is recorded at the time of testing. Paralyzed flies are returned to their

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Automatic Time Switch—Volume Air Control

One Gallon Capacity, 1-3 H.P. G. E. Universal Motor

½ H.P. G.E. MOTOR
TIME SWITCH OPERATES 1 TO 45 MINUTES AUTOMATIC SHUT OFF
ADJUSTABLE NOZZLE SPRAYS IN ANY POSITION
VOLUME CONTROL FINEST DIFFUSING WITH WARM AIR
COMPRESSOR TYPE
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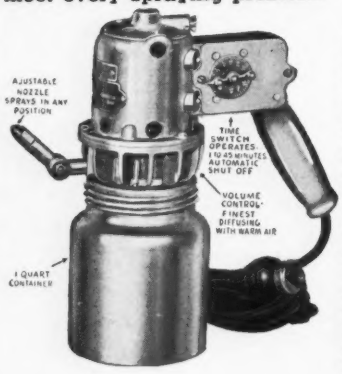
Here is the finest sprayer ever built. Similar to the now widely used Tornado Model 54 and retaining the automatic time switch, volume air control and adjustable nozzle features, the new Model 36 will spray a big volume of insecticide great distances in finest gas formation.

The patented principle of heating and compressing material does the trick. Just the sprayer you need for covering large distances and penetrating with the finest gas every possible source of insect existence.

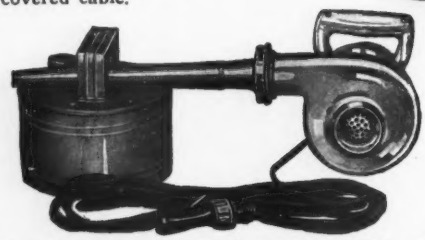
Get the facts on this sprayer before buying!

Also most complete line of electric sprayers to meet every spraying problem.


ADJUSTABLE NOZZLE SPRAYS IN ANY POSITION
TIME SWITCH OPERATES 1 TO 45 MINUTES AUTOMATIC SHUT OFF
VOLUME CONTROL FINEST DIFFUSING WITH WARM AIR
1 QUART CONTAINER

MODEL 54—1 QT. CAPACITY It features an automatic time switch set at any point from 1 to 30 minutes — sprays desired amount without any attention whatever — automatically shuts off. Can also be used for hand spraying. Adjustable nozzle can be set for spraying in any position. Also exclusive volume control adjustment permits spraying one ounce every two to four minutes with either fine or heavy spray. **MODEL 53** same as Model 54 except does not have automatic time switch.

Model 50 Fan Type unit. A fine insecticide atomizer. Sprays distance of 8′ to 10′. ⅛ H.P. G.E. Universal Motor, 1 pint glass jar. 20′ of rubber covered cable.



Model 6 Fan Type unit. Will break insecticide into a very fine mist. Sprays 18′ to 20′. 1/3 H.P. G.E. Universal Motor. Norma Ball Bearings, 1 gallon metal container. This model is for larger institutions, warehouses, industrials, etc., and is also highly recommended for moth-proofing solutions. Write today for complete description and circulars.

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We do not sell insecticides. Our business is manufacturing sprayers.
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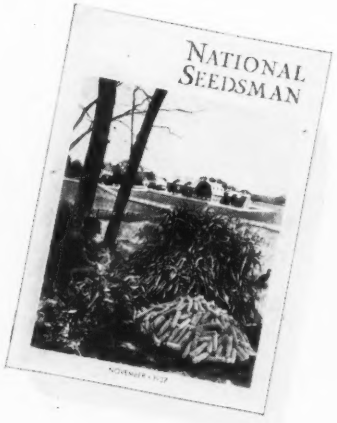
that the Seed Store is an important outlet for all agricultural and many household insecticides?



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original cage, supplied with cotton saturated with sugar solution, and then held in the rearing room. Care should be taken to distribute the paralyzed flies evenly over the cage floor and to space the cages to assure uniform aeration during the recovery period. After 24 hours, the dead flies are removed through the sleeve opening and counted; then the recovered flies are killed and counted. The percentage dead flies of total flies (including "up" flies) is calculated.

7. The series of samples, randomized as to order of testing, is again tested once or preferably twice, cages from a different culture being used for each series. The evaluation reported for the sample is the mean difference between the O.T.I. and sample kills obtained from comparisons on two or more cultures.

The above procedure employs the regular Peet-Grady equipment with the exception of the stock and observation cages which are replaced by the one type of cage previously described. Thirty to thirty-six cages are sufficient to keep one chamber in continual operation. The modified method permits one operator to evaluate twelve to eighteen samples a week, with equal or better accuracy than is obtained by the present method which does not allow more than five samples to be evaluated in the same period. Perhaps the greatest advantage of the method, in addition to providing improved testing capacity, lies in the fact that the tedious sexing of flies is avoided because each test unit contains approximately 50 per cent males at the time of spraying. Groups of 500 flies are handled almost as easily as groups of 100 flies. Test units of 500 or more flies, when derived from thoroughly mixed pupae, are very uniform with regard to sex ratio. In addition, the method of obtaining the large test units results in the use of a true sample of the reared population. In the large group modification, the number of replications has been greatly reduced, because several important sources of variation, formerly taken into account only by replicating tests, have been controlled by other means.

For preliminary tests on the usefulness of the modified procedure, two insecticide samples were employed. Sample 103 contained 103 mg. of pyrethrins per 100 ml., 8 mg. more than the 1937 Official Control Insecticide. Sample 125 contained 125 mg. of pyrethrins per 100 ml., 30 mg. more than the Control Insecticide. The two samples were then independently evaluated at weekly intervals, both by the large group method employing unsexed flies and by the regular Peet-Grady method using sexed flies. In all cases, new paper was placed on the chamber floor after each spraying.

Table I illustrates the agreement of independent evaluations of samples 103 and 125. The figures given are the points difference between the 1937 O.C.I. and sample mortalities. Evaluations by the large group modification represent the average difference obtained from one pair of tests on each of two cultures. Evaluations by the regular Peet-Grady method were obtained from five pairs of tests on each of two cultures.

The data in Table I indicate that evaluations by the large group modification agree with those obtained by the regular Peet-Grady method employing sexed flies. In all cases, sample 103 would fall into the Association's B grade, while sample 125 would in every case be given a grade A rating.

Greater accuracy may be obtained by comparing the Official Test Insecticide and unknown sample on three or more cultures. Replicating the tests within a culture also improves the accuracy somewhat as this provides twice as many replications of operating technic. However, for a given number of paired tests, it appears that a greater improvement in accuracy occurs when the tests are divided as one pair on each of four cultures rather than as two pairs on each of two cultures.

From several months' trial in the writers' laboratory, the large group modification appears to be capable of greater speed and accuracy than other procedures commonly employed for evaluating fly sprays. Cooperative tests now in progress by the Association's Scientific Committee on Insecticides should provide further information on the usefulness of the method. The tests undertaken by the several laboratories have been designed to supply data which will establish the number of replications within cultures and between cultures necessary for satisfactory agreement of evaluations.

TABLE I.
Comparison of Evaluations Obtained by the Regular Peet-Grady Method and by the Large Group Modification

Evaluation	*No. Pairs of Tests*	*No. Flies Used*	*Difference Between O.C.I. and Sample Kills*	
			Sample 103	*Sample* 125
Peet-Grady Method Using Unsexed Flies				
First	10	2058	+3.5	.....
	10	2023	.....	+11.9
Second	10	2108	+9.2	.....
	10	2074	.....	+ 7.1
Peet-Grady Method Using Sexed Flies				
First	10	2058	+1.5	.....
	10	2023	.....	+10.9
Second	10	2108	+4.0	.....
	10	2074	.....	+ 8.7
Large Group Modification Using Unsexed Flies				
First	2	2082	+3.7	.....
	2	2103	.....	+11.0
Second	2	2012	+2.8	.....
	2	1986	.....	+ 9.5
Third	2	2041	+1.1	.....
	2	2114	.....	+ 9.1
Fourth	2	2005	+3.7	.....
	2	2019	.....	+ 7.0
Fifth	2	2064	+3.3	.....
	2	1979	.....	+11.3
Sixth	2	2116	.....	+10.0

Literature Cited

1. Miller, A. C. and W. A. Simanton. 1938. Biological factors influencing Peet-Grady test results. Soap Vol. 14, No. 5 (This issue.)

2. Simanton, W. A. 1937. Evaluating liquid insecticides. Soap Vol. 13, No. 10, pp. 103, 105, 107, 115.

Household Fly Spray

NO MATTER WHAT YOUR PRODUCT

35G
3 Quart Cap.

Dairy Fly Spray

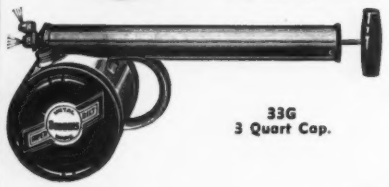
These Dobbins sprayers will assure its even efficient application.

Made—First, to perform the best,
Second, to stand the test,
Third, to have all-round appeal.

Dobbins sprayers are well manufactured of high-grade materials, with modern efficient methods. Embodied in their design and construction are years of experience and knowledge of manufacturing sprayers for special service. Consult us if you have a sprayer problem!

Disinfectants

35G—Is a high pressure sprayer with patented air regulator and volume control. Spray can be adjusted from a fine floating fog to a solid stream with in-between variations. The finest chemical sprayer you can find.



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3 Quart Cap.

33G—Continuous sprayer equipped with patented whirling spray nozzle. Throws finely atomized spray either up or straight ahead. Takes only a jiffy to change.

43G
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43G—A sturdy double duty sprayer. Can be pumped to high pressure or used as a continuous sprayer.

No. 10 Floor Oil sprayer with air regulator and volume control. Designed to apply floor oils and dressings with utmost efficiency. Write for catalog and further information. Circulars on these sprayers may be had on request.

Floor Oils and Dressings

Deodorants

No. 10
1½ Gal. Cap.

Insecticides

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Special Grades of

Coconut Fatty Acids

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SHAMPOO SOAPS
SHAVING CREAMS

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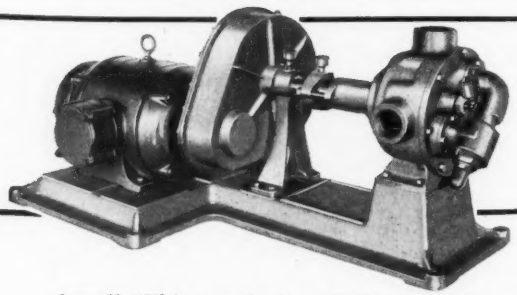

Install Viking and give all "pumping" worries a one way ticket out of your plant. Especially designed for the handling of soap liquors, greases, oils and lotions — Viking pumps operate smoothly and with constant discharge. Write for Viking's bulletin on pumps for the Soap Industry.

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News.....

New Disinfectant Business

C. A. Vann of Greeneville, Tenn., has started a new business for the distribution of insecticides, disinfectants, and allied products in the Eastern section of Tennessee, and is interested in receiving information and catalogs from manufacturers of these products. The new business is located at 205 Irish St., Greeneville, Tenn.

Booser Joins Bick & Co.

J. C. Booser, formerly associated with the purchasing department of the State of Pennsylvania at Harrisburg in a technical capacity, has taken a position with Bick & Co., Reading, Penna., manufacturers of chemical and sanitary specialties, including floor waxes, insecticides, etc. Mr. Booser is the author of an article on floor wax specifications appearing in this issue of *Soap*.

Industrial Laboratories Expand

Industrial Laboratories, Baltimore, have occupied the three story and basement building next door to their old quarters and now have approximately 50,000 square feet of space extending from 13 to 19 W. Conway St. Ray Washburn, formerly with the Whitaker Paper Co., Baltimore, has joined the firm to be in charge of a newly organized paper jobbing department. In addition the new division will act as exclusive distributors of numerous specialty items in the janitor supply line. Industrial Laboratories, headed by Ira M. Lippel, has manufactured sanitary chemicals for several years.

Hospital Exhibit at Columbia

Janitors' Supply House, Inc., Baltimore, was represented with an exhibit at the Tri-State Hospital Convention, at Columbia, S. C., last month. W. K. Tracey of the Baltimore office, and G. F. Cotton, southern sales manager of the firm, were in charge. The sales staff of the company has recently been increased by the addition of two new representatives.

Drug Section Hears McCormick

Charles P. McCormick, president of McCormick & Co., Baltimore, was a guest speaker at a luncheon meeting of the Drug, Chemical and Allied Trades Section of the New York Board of Trade, held April 27 at the Hotel Astor, New York. His subject was "Management-Employee Relationship."

Wislon Leaves Jas. Good, Inc.

Frank E. Wilson, sales manager of James Good, Inc., manufacturing chemists, Philadelphia, has resigned. Mr. Wilson said that his plans for the future are indefinite. He also advises that John P. Meehan, with James Good for the past 17 years, has likewise severed his connection with that concern.

Forms Own Company

H. A. Galenes, Ohio Food & Supply Co., Columbus, O., has dissolved his partnership in that concern to form his own company under the name of Standard Supply Co., in Columbus. The newly organized firm will specialize in soaps and janitor supplies.

Changes Firm Name

A Line Products Co., sanitary products manufacturer, Baltimore, recently changed its name to Fabrite Products Co. The address, 1008 Hanover St., Baltimore, remains the same.

Empire Names Agency

Empire Brands Co., New York, has appointed Rosette Advertising Corp., New York, to handle advertising on "Gets" cleaning compounds, "Empire No-Rubbing Wax," and "Empire Killex." Newspapers and radio will be used.

British D. M. A. Elects

At the annual meeting of the British Disinfectant Manufacturers' Association held in England recently, the following officers and executive committee were elected: S. Bryan, chairman; H. M. Spackman, vice-chairman; R. A. Blair, treasurer; R. G. Berchem, auditor; A. D. Daysh, H. W. Mackrill, N. D. Pagden, A. S. Roxburgh, F. C. Seager, H. A. Smith, and N. Thornton, executive committee.

FTC Checks "Skol" Claims

Skol Co., New York, has entered into stipulations with the U. S. Federal Trade Commission agreeing to discontinue advertising that "Skol Antiseptic" relieves sunburn by a new scientific light control principle, or that it is the "new Swedish" antiseptic and germicide, or that it relieves all types of burns unless the latter claim is limited to minor burns.

Promote "Bug-a-boo"

Socony-Vacuum Oil Co., New York, is promoting its liquid insecticide, "Bug-a-boo", with two-color insertion advertisements in leading national magazines. Cartoons and rhymes are being used in copy.

Ideal Changes Firm Name

Ideal Mfg. & Sales Corp., industrial chemicals and supplies, Memphis, Tenn., has changed its firm name to Ideal Chemical & Supply Co. The personnel of the company remains the same.

"Kiwi" Shoe Polish Campaign

Kiwi Polish Proprietary, Ltd., London, Eng., has appointed Norris-Patterson, Ltd., Toronto, to handle a new advertising campaign in Canada on "Kiwi" shoe polish.

Exterminating Materials Moves

Exterminating Materials Co., supplier of raw materials and finished products to the exterminating trade, has just moved its offices to new quarters at 557 West 22nd Street, New York.

MIST-IC
Pressure Sprayer

4 Nozzle Unit

Patented Jan. 25, 1938

LIST PRICE $7.50
F.O.B. Minneapolis

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EXCLUSIVE MIST-IC FEATURES

1. Pre-heat spray solution chamber.
2. Four no-drip nozzles mounted at a thirty degree upward angle.
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4. Fifty seconds to atomize one quart of spray solution on 25 lbs. or more steam or air pressure.
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COMMERCIAL OLIVE OIL
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VAN DAM STREET AND BORDEN AVENUE
LONG ISLAND CITY NEW YORK

Insecticide-Disinfectant Meeting at Lake Wawasee, June 13-15

THE 24th annual summer meeting of the National Association of Insecticide & Disinfectant Manufacturers will be held on June 13, 14, and 15 at The Spink-Wawasee, Lake Wawasee, Indiana. Announcement of preliminary plans for the meeting calls for a number of important and interesting discussions, including marketing and merchandising of insecticides, purchase of sanitary supplies by public institutions, maintenance of sanitation on railroad cars, composition and use of cattle sprays, new technique of fly spray testing, the future of the farm market for household insecticides, and others.

Among the leading speakers at the meeting will be F. R. Callahan of the Pullman Company; Dr. E. J. Searles of the University of Wisconsin; Charles W. Dipman, editor of *The Progressive Grocer;* Prof. J. J. Davis of Purdue University; Dr. E. A. Back of the U. S. Department of Agriculture; Dr. George W. Hoover, well-known consultant on labeling and other legal problems; Dr. R. C. Roark of the U. S. Department of Agriculture; a representative of the State of Indiana public institutions, and others. Legislation, state registration, and other subjects will be covered in various committee reports. A special group meeting of sanitary chemical manufacturers is planned for one afternoon to take up the subjects of new specifications, standardization, and marketing problems of these products.

Entertainment features of the meeting which are in charge of R. S. Solinsky of the National Can Co., Chicago, will include an annual golf tournament on the Wawasee course for which a number of handsome prizes will be awarded. Contributions to the prize fund are being made by numerous firms among the membership. The meeting will close with an informal dinner on Wednesday evening, June 15, following which there will be a series of boxing bouts, according to early plans of the committee. Details of the entertainment program will be announced by Mr. Solinsky in the near future.

General arrangements for the meeting are in charge of John Powell of John Powell & Co., New York, chairman of the convention committee. The program of speakers is under the direction of W. J. Zick of Stanco, Inc., New York. Special transportation arrangements are being made by H. W. Hamilton of the White Tar Co., Kearny, N. J. (The B & O Railroad has a station stop at the hotel.) Arrangements for fishing, boating, sailing, horseback riding, tennis, golf and other sports will be under the direction of R. S. Solinsky, chairman of the entertainment committee. Further details in regard to the meeting may be secured from Chairman Powell or from the Association executive office at 110 East 42nd St., New York.

◆

Hockwald in New Plant

Hockwald Chemical Co., San Francisco, which celebrated its thrity-fifth anniversary last year, has recently occupied a new three-story concrete building, offering double the floor space of its previous quarters. The company's products include soaps, disinfectants, deodorants, insecticides and cleaning materials. Founder of the concern in 1902 was A. Hockwald, father of the present heads of the business. His first products were sheep dips, coal-tar disinfectants and deodorants, and it was not until several years later that he started the manufacture of soaps. Today the concern is directed by Mr. Hockwald's two sons, S. S. Hockwald and L. Hockwald, who have been with the company since 1915. Associated with them are H. A. Berliner, sales manager, whose first job with the company was as office boy, and V. Cronkite, in charge of the chemical laboratory.

◆

Name Merck in FTC Complaint

The U. S. Federal Trade Commission has issued a complaint charging Merck & Co., Rahway, N. J., with unlawful price discrimination to favored customers, in violation of the Robinson-Patman Act. The complaint alleges that Merck & Co. discriminate in price between different purchasers buying their products in like grades and qualities, by allowing some purchasers lower prices than others.

◆

Ehrmann-Strauss Change Name

Ehrmann-Strauss Co., chemical and drug importing and manufacturing firm, New York, has changed its name to R. Gesell, Inc. The change will not in any way effect the present policy of the company, it was announced. Richard Gesell is president.

◆

Joins Sanitary Supply Assn.

Peerless Sal-O-Well Co., Buffalo, is a newly elected member of the National Sanitary Supply Association.

◆

Offer New Cleaners

A. W. Adams & Co., Los Angeles, are introducing two new sanitary products in that city, known as "Bowl-Kleen" and "Drain-Kleen." They are being sold in combination, both products for 19 cents.

◆

Zimmern Pest Control Moves

Zimmern Pest Control, termite division of Temple Lumber Co., formerly at 2508 South Harwood St., Dallas, has moved to 5007 Lindsley Ave., in that city.

SPECIALTY SOAP PRODUCTS

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For Repacking and Jobbing 55 years' experience assures satisfaction.

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• • •

CRESYLIC CREOSOTE

• • •

MIRVALE CHEMICAL CO., Ltd.
MIRFIELD YORKS, ENG.

Mr. Buyer:

WINDSOR NO RUBBING LIQUID WAX can be used on all types of flooring. . . .

Yet WINDSOR manufactures other types of floor wax. WHY? . . . Because different flooring and different conditions cannot be all treated alike. That is why we invite your inquiries for WINDSOR. . . .

1. NO RUBBING WATERPROOF Liquid Wax that dries in twenty minutes to a shine and can be rebuffed.
2. PASTE, LIQUID or SLIPRUF wax that gives a durable beautiful finish.
3. PIGMENT wax in colors (Red, Green, Brown, Buff, Black, Grey).
4. STAIN wax in Oak, Walnut, etc.
5. BOWLING ALLEY POLISH.

In bulk or under private label.
WINDSOR WAX COMPANY, INC.
53 Park Place New York

Urges High Disinfectants

High coefficient disinfectants have not progressed in the United States in the way in which they should. Their use should be encouraged and fostered, as it has been in England, because they are better products which give better results. These are the sentiments of G. W. Baird, vice-president of Baird & McGuire, Inc., Holbrook, Mass., in a letter to SOAP, which says:

"It seems a shame that with all the scientific data that have been presented to the consuming public, in simple language of course, the use of high co-efficient coal-tar disinfectants has not progressed to any great extent. It is a problem that for many years has been facing the manufacturers of disinfectants, and the solution seems to be no nearer at hand. The fault may be with the salesman of the janitor supply house, the salesgirl of the department store, or the hardware merchant; but I seem to think the source of the trouble is with the manufacturer. The public can be educated to the fact that it costs them less to use high-coefficient disinfectant, but the manufacturer is taking the path of least resistance in an attempt to make a sale.

"Let us look at the facts. For argument's sake, take co-efficient two coal tar disinfectant selling at 50c a gallon:—for general disinfecting purposes one gallon of the disinfectant is used with forty gallons of water making forty-one gallons of solution costing 50c. Now, let us take coefficient twenty coal tar disinfectant selling at $1.50 a gallon:—dilute that to the same strength. That will give 401 gallons of solution costing $1.50. By this figuring, you can see that the initial out-lay for one gallon of coefficient twenty is three times greater than for coefficient two, but after the dilution is made you have approximately ten times more material. Another way of figuring this is that on a coefficient two at 50c a gallon the cost per unit of disinfectant value is 25c; on coefficient twenty at $1.50 the cost per unit of disinfectant value is 7½c. No matter how you figure it, the public is paying a premium when buying a low-grade disinfectant.

The argument has been put forth that the average person just dumps a little disinfectant into a pan of water,—never reading directions printed on the package. Do you mean to tell me that in this country of ours the majority of people are so haphazard about things? I do not believe it.

It is true there is some high-coefficient disinfectant sold, but the field has been barely scratched. Let us look across the water to England. For years they have manufactured high-grade disinfectants. The public expects them, and demands them. If the manufacturers of England can bring this about, why can't the manufacturers of disinfectants in the United States do the same thing? Are we going to do it, or are we going to lag? In this day and age, we are always looking for new fields to conquer. Here is one that has been staring the manufacturers in the face for many years."

◆

Rogers Exterminating Co., formerly at 6530 North Clark St., Chicago, has moved to 2928 Broadway.

"Char-Tex" Claims Checked

Char-Tex, Inc., Minneapolis, distributor of "Char-Tex" antiseptic solution, has entered into stipulations with the U. S. Federal Trade Commission agreeing to discontinue advertising that its product will stimulate the blood flow or relieve inflammation, or that it has any desensitizing properties, or kills germs or bacteria in the mouth, or that it will effectively prevent disease caused by germs in the mouth.

◆

Filipino Derris Exports Up

Exports of derris root from the Philippine Islands totaled 49,132 kilos in 1937. This compares with 40,197 kilos in 1936. United States was the largest importer in 1937, taking 35,531 kilos, Great Britain was next, taking 10,335 kilos, then France, taking 2,980 kilos, and Germany, taking 286 kilos.

◆

Frank B. Ross Moves

Frank B. Ross Co., importing firm, formerly located at 79 Wall St., New York, has moved to 507 Eighth St., Hoboken, N. J.

"Flit" Enjoins "Mit"

After trial at San Antonio in the U. S. District Court, Western District of Texas, Federal Judge McMillan granted an injunction against the use of the name "Mit" on insecticides on the grounds that "Mit" was too similar to "Flit." The suit was by Stanco, Incorporated, New York, the manufacturers of "Flit," against George B. Mitchell, and the Mitchellite Laboratories of San Antonio, Texas. The Court's opinion stated as follows:

"The evidence here shows without contradiction that plaintiff has been using this name 'Flit' continuously in connection with insecticides for a great many years; that it has spent millions of dollars in advertising; that the advertisements were not only visual, but were by way of sounds. It has spent a great deal of money in advertising over the radio, and the commodity is not only purchased by people who actually see it and look at it when they purchase it, but by people who order it over the telephone or send for it.

"It is very readily seen that confusion naturally would exist between the two commodities when they both purport to be the same thing or rather to accomplish the same result, and have names that are so nearly alike.

"I am not attempting to say or to hold that the name of 'Mit' was adopted purposely to obtain the benefit of the advertising and good will attaching to the commodity 'Flit,' but, whether it was or not, the fact remains that to a certain extent it does.

"There is no valid reason for taking a name of no particular significance like 'Mit,' so nearly allied in sound to 'Flit,' and attaching it to identically the same character of commodity. The party who proposes to market an insecticide should stay further away from an appropriated name than that."

The Perfect Twins

MORTOLIN
the
Ideal Mothproofing Compound
Oil Soluble — Non-Poisonous

MORTICIDE
the
Tested Bed Bug Concentrate
Odorless — Efficient

Send for Samples and Complete Information

PYRETHRUM PRODUCTS — DERRIS PRODUCTS

ASSOCIATED CHEMISTS, INC.
6243 So. Ashland Ave. Chicago, Ill.

A new floor wax
for the janitor supply
and jobbing trades which is

waterproof

and which gives a

high gloss

ZIP-ON WAX

Dries very bright and becomes water resistant as soon as dry. Wax content guaranteed 100% Carnauba. Supplied in bulk, or with your label in any size container.

Shawmut Specialty Co.
91 Bickford St. Boston

L O W E L L ' S
NEW ELECTRIC SPRAYER
FOR EVERY USER OF INSECTICIDES AND DISINFECTANTS

Motor 1/50 H.P. Roto Pressure type. 6 ft. cord. Off and On Switch. Chrome Container. Adjustable Nozzle. 110-120 volts, 25-60 cycle.

Our new Model No. 310 electric sprayer holds promise of being the outstanding sprayer for applying insecticides and disinfectants. It is smooth-running, produces large volume of spray, is of sturdy construction — we guarantee it will stand up under the hardest use. Don't take our word regarding the unusual qualities of the No. 310—place a trial order today and see for yourself what it will do. You will be agreeably surprised at the price.

LITERATURE SENT ON REQUEST

LOWELL MANUFACTURING CO.
NORTH PIER TERMINAL, OPPOSITE NAVY PIER
CHICAGO, ILL.
FACTORY: LOWELL, MICHIGAN

KESSCOCIDE 95
ALPHA NAPHTHYL ISO-THIOCYANATE
A NEW SYNTHETIC INSECTICIDE
COLORLESS SOLUTIONS
ODORLESS — ECONOMICAL
NON STAINING
INQUIRIES SOLICITED
THE KESSLER CHEMICAL CORPORATION
DELAWARE AVE. & MIFFLIN ST. PHILADELPHIA, PA.

Sanitary Supply Association

Meets in Pittsburgh May 16-18

THE sixteenth annual convention of the National Sanitary Supply Association will be held this year, May 16, 17 and 18, at the Roosevelt Hotel, Pittsburgh. Early arrivals are expected to check in the afternoon of Sunday, May 15, and the convention will get under way officially at 10:30 the following morning. Among the social events scheduled is an informal get-together and a stag party the evening of Monday, May 16, and the annual banquet the evening of May 17. Programs of entertainment have been arranged for both events. The convention will close the afternoon of Wednesday, May 18.

E. A. Stanford, of City Janitor Supply & Brush Co., St. Louis, president of the National Sanitary Supply Association, in cooperation with the program committee, has worked out an interesting series of topics for discussion at the meeting. Among topics listed for attention are the following:

What is the best method of compensating salesmen?

How can I help my salesmen sell more goods?

Pushing the profitable elements in the line.

Servicing the sale.

What markup on cost is necessary to insure a profit?

Increasing sales on deodorants, insecticides and fungicides.

Increasing the unit of sale as a profit feature.

The advertising of sanitary supplies.

The place of the catalog.

Ways and means of holding down delivery costs.

The conduct of sales meetings.

Trend of the janitor supply business and its possible future.

Make your house stand for something in your community.

The value of local associations.

Potential markets on floor machines.

An address on soap.

An important feature of the meeting will be the annual equipment and supply show. Displays will be set up adjacent to the meeting room acquainting those in attendance with the newest developments in materials and equipment for use by the janitor supply trade.

◆

Insecticide Toxicity Tests

A report on toxicity tests with synthetic organic compounds against culicine mosquito larvae has been prepared by four research chemists of the U. S. Dept. of Agriculture, Bureau of Entomology and Plant Quarantine, Washington. The four men are D. E. Fink, formerly entomologist, Division of Control Investigations; L. E. Smith, chemist; D. L. Vivian, junior chemist, and H. V. Claborn, junior chemist, Division of Insecticide Investigations. Four hundred synthetic organic compounds were tested against culicine mosquito larva. Of these 220 proved effective enough to kill about 50 per cent of the test insects in 16 hours at a concentration of 100 p.p.m., and 23 were adjudged to be at least as toxic as rotenone. The ten most toxic compounds tested, all of which were considered to be better than rotenone, are phenothiazine, 4-(p-bromophenylazo)-resorcinol, 4-(p-bromophenylazo)-o cresol, p-(p-bromophenylazo)-phenol, 4-(2,5-dichlorophenylazo)-o-cresol, 4-(p-bromophenylazo)-m-cresol, phenyl mercaptan, phenothioxin, p-tolyl mercaptan, and 6-methylphenothiazine.

◆

Antifogging Composition

An antifogging liquid for use on windshields contains to 1 gallon of glycerine 4 ounces of camphor, a half pint of turpentine, 1 pound of potassium oxalate and 4 ounces of oxalic acid. James T. Benton. U. S. Patent No. 2,107,361.

◆

Badertscher on Advisory Council

A. E. Badertscher, chief entomologist for McCormick & Co., Baltimore, has been appointed to the Advisory Council for Entomology, Maryland College of Agriculture.

An effective family group of packages of floor preparations marketed by S. C. Johnson & Son, Inc., Racine, Wis., was recognized in the awards at the recent packaging show sponsored by the American Management Association. These Johnson packages won an Irwin D. Wolf award for the most effective use of typography and lettering. The designer was E. Willis Jones.

NAPHTHENIC SOAPS
NAPHTHENIC ACID SLUDGES

(Mineral Oil Residues)

"Flag Brand" White Mineral Oils - - - U.S.P. and Technical

Specifications upon request

S. Schwabacher & Co., Inc.

25 Beaver Street **New York**

F. & S.

Quality Colors
for
TOILET SOAPS
LIQUID SOAPS

TOILET PREPARATIONS

Long experience enables us to produce colors for all types of soaps.

If you have a shade you want matched send us a sample. We have complete facilities for matching.

Liquid soap colors a specialty—send for samples of F. & S. greens and ambers.

FEZANDIE & SPERRLE, Inc.
205 FULTON STREET
NEW YORK, N Y.
Import—Manufacture—Export

SPECIAL PERFUMES FOR SPECIAL SOAPS

Our Research Laboratories have devoted considerable attention to the perfuming of Antiseptic, Sulfur, Superfatted and other Special Soaps

Your inquiries solicited.

COMPAGNIE PARENTO, Inc.
CROTON-ON-HUDSON, N. Y.
NEW YORK CITY DETROIT CHICAGO
LOS ANGELES SAN FRANCISCO
SEATTLE PORTLAND, ORE. TORONTO

The HOLZ-EM SOLVES the PROBLEM

of convenient and proper application of floor waxes, seals and varnishes. You can be sure that your products are being used correctly by selling or recommending the HOLZ-EM WAX APPLICATOR and SPREADER to do the job. Designed by experts, made of the best materials, the HOLZ-EM will help build your list of satisfied customers just as it has done for others who are already familiar with the product.

We manufacture a complete line of wool applicators, cotton dust mops and cotton wet mops. For prices and samples write

AMERICAN STANDARD MFG. CO.
2509-13 South Green Street **Chicago, Ill.**

Floor Wax Specifications

(*From Page* 101)

old wax from various surfaces. The test piece that passes the wearability test should be used for this determination and subjected to mechanical removal action using the cleaning material that would be required in actual usage. Here again the mechanical removal action should reproduce the removal operation in full scale practice.

Despite the apparent difficulties, the resources at the command of the chemist today as regards testing technique and apparatus, plus some ingenuity, should eventually result in the establishment of satisfactory procedures. The floor wax industry might do well to follow the lead of groups in the textile, paint, rubber, and insecticide fields where work along these lines has already borne fruit.

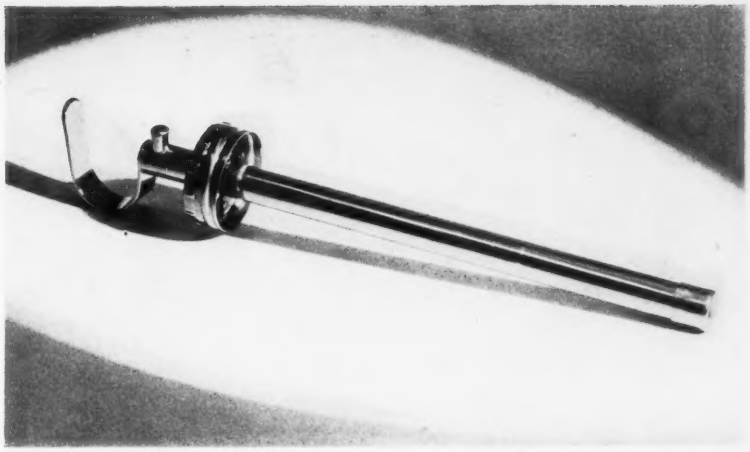
The question is, who will conduct and support such activity in the floor wax field. Looking at the matter fairly, the burden should rest equally on the shoulders of the manufacturer and the purchaser. An alternative would be for one of the trade associations to broaden the scope of its activities so as eventually to take in the various chemical specialties.

There is a definite need for a line of action relating to these commodities, and such an organization no doubt could and should enlist the aid of large purchasers of these materials.

—— ♦ ——

Buys Anderson Laboratories

Agricultural Laboratories, Inc., Columbus, O., has purchased Anderson Laboratories, household insecticide manufacturers, Indianapolis. All laboratory equipment and facilities of the latter concern, it is announced, will be moved to Columbus. The manufacture of insecticides will be continued by the absorbing company with formulas developed by Anderson Laboratories, but under a new trade name, known as "Spraycide." Branch sales offices for the distribution of "Spraycide" will be established in New York and Chicago. H. L. Anderson, former owner of Anderson Laboratories, has been retained in an advisory capacity, and as a sales representative by Agricultural Laboratories.



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Addresses Boston PCA

Prof. Charles H. Blake of the Massachusetts State Institute of Technology was a guest speaker at a meeting of the New England Pest Control Association, held in Boston recently. He spoke on "Wood-Eating Insects." The talk was illustrated with lantern slides. Following Prof. Blake's address, the Committee on classified telephone directory advertising presented a report, with recommendations that members of the association eliminate duplicate listings, and confine their advertising in the classified directory to one major listing, with cross references.

—— ♦ ——

Form Ablon Disinfectant Co.

Ablon Disinfectant Co., 1916 Grand Ave., Dallas, has been formed by Meyer H. and Morris Ablon to handle sanitary chemicals and accessories.

—— ♦ ——

Enoz Appoints Agency

Enoz Chemical Co., Chicago, disinfectants, has appointed W. W. Garrison & Co., in that city, to handle its advertising account.

—— ♦ ——

Exterminating Corp. Moves

Exterminating Services Corp., formerly at 264 Fifth Ave., New York, has moved to 9 W. 29th St.

New Insecticide Sprayer

A new type sprayer designed to fit various size stock cans of fly spray and stated to be more powerful and to have a much larger range than previous sprayers of this type, has been announced by the Arnold-Copeland Co., 221 Summer St., Boston. The new can-sprayer, according to the manufacturer, will throw a fine mist of insecticide well up to the corners of a room with twelve-foot ceilings and is suitable for ordinary household use. They claim its advantages are in being attachable to the original can, its small size, effective spraying, and low cost. The company also manufactures small sprayers for glass, windshield and other spray cleaning fluids.

—— ♦ ——

Timmy Chemical Co. Moves

Timmy Chemical Co., manufacturers of soap and sanitary products, formerly at Wauna, Oregon, has moved to 208 Columbia St., Seattle, Wash.

—— ♦ ——

Lescohier Heads Parke, Davis

Dr. William Lescohier, with Parke, Davis & Co., Detroit, since 1909, and general manager since 1929, is now president, succeeding the late Oscar W. Smith.

—— ♦ ——

Back From European Trip

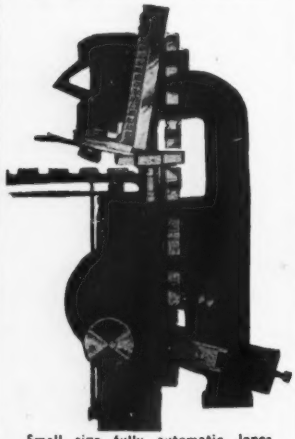
J. A. Tumbler, head of J. A. Tumbler Laboratories, metal polish manufacturer, Baltimore, recently returned from a business trip to Europe.

Special Offerings of

New CRUTCHERS

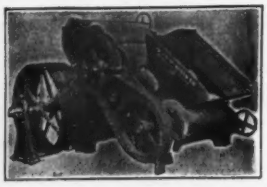
This Newman brand new, all steel, steam jacketed soap crutcher will crutch any kind of soap. We also build another crutcher especially adapted for laundry soap.

Automatic JONES PRESS



Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our shops.

H-A SOAP MILL



This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls. Priced for quick sale.

New and Rebuilt

SOAP MACHINERY

by

NEWMAN

We carry a complete line of equipment for the soap and sanitary products industry. All used equipment is rebuilt in our own shops and is guaranteed to be in first class condition. All new equipment that we manufacture such as crutchers, frames and cutting tables is of the finest material and workmanship. You can buy with confidence from Newman.

USED SPECIALS

For the Soap, Chemical, Cosmetic and Allied Trades

H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.

Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.

Ralston Automatic Soap Presses.

Scouring Soap Presses.

Empire State, Dopp & Crosby Foot Presses.

2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.

H-A 4 and 5 roll Steel Mills.

H-A Automatic and Hand-Power slabbers.

Proctor & Schwartz Bar Soap Dryers.

Blanchard No. 10-A and No. 14 Soap Powder Mills.

J. H. Day Jaw Soap Crusher.

H-A 6, 8 and 10 inch Single Screw Plodders.

Allbright-Nell 10 inch Plodders.

Filling and Weighing Machine for Flakes, Powders, etc.

Steel Soap frames, all sizes.

Steam Jacketed Soap Remelters.

Automatic Soap Wrapping Machines.

Glycerin Evaporators, Pumps.

Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.

Perrin 18 inch Filter Press with Jacketed Plates.

Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.

Day Grinding and Sifting Machinery.

Schultz-O'Neill Mills.

Day Pony Mixers.

Gardiner Sifter and Mixer.

Proctor & Schwartz large roll Soap Chip Dryers complete.

Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.

Day Talcum Powder Mixers.

All types and sizes—Tanks and Kettles.

Ralston and H-A Automatic Cutting Tables.

Soap Dies for Foot and Automatic Presses.

Broughton Soap Powder Mixers.

Williams Crutcher and Pulverizer.

National Filling and Weighing Machines.

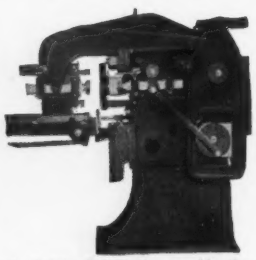
Send us a list of your surplus equipment—
we buy separate units or complete plants.

Newman Tallow & Soap Machinery Co.

1051 W. 35th St., Chicago, Illinois

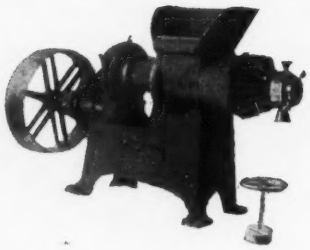
Our forty years soap experience can help solve your problems.

JONES AUTOMATIC



4 Jones Automatic combination laundry and toilet soap presses. All complete and in perfect condition.

SINGLE SCREW SOAP PLODDER



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.

Classified Advertising

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

Positions Wanted

Chemist, Ph.D.—Thorough chemical and engineering training. Twelve years' executive duties. Extensive experience with disinfectants, antiseptics, detergents, and insecticides. Interested in development and production. Address Box No. 401, care *Soap*.

Salesman — Experienced with fats and oils. Acquainted with the soap and other manufacturing industries in New England. Seeks opportunity with reliable producer. Address Box No. 403, care *Soap*.

Soapmaker & Chemist—With long years of experience in all phases of the manufacture of laundry, toilet and textile soaps, soap powders, etc., presently employed; desires executive position with reliable concern. Address Box No. 402, care *Soap*.

Toilet Soap—Man with ten years' experience in fine toilet soap manufacture in Germany, in creams, cosmetics, etc., and perfuming, desires position with American manufacturer. Recently arrived U. S. Speaks English fluently. An expert in milled toilet soaps. Further details gladly furnished. Address Box No. 399, care *Soap*.

Expert maker of auto, metal and furniture polishes; waxes (liquid and paste); all kinds of cleaning compounds. Wonderful opportunity for young concern or someone starting in this business. Address Box No. 395, care *Soap*.

Wanted: Sales Manager under 45 years old with Chemical Engineering Degree and experience in stearic acid and heavy chemical sales. $10,000. yearly. Give details in confidence. Address Box No. 408, care *Soap*.

Sales Executive desires to connect with manufacturer or refiner. Twenty-two years' experience in mineral oils, insecticides, chemicals, aromatics. Address Box No. 406, care *Soap*.

Chemist—Man with twenty years' experience, ten of which has been in soaps, oils, detergents, cleaners, etc., desires new connection with preferably small or medium size company. M.I.T. graduate in chemical engineering. Address Box No. 405, care *Soap*.

Rebuilt Soap Machinery

—thoroughly overhauled in our Newark plant and fully guaranteed.

SPECIALS

4—Steel Wool Mfg. Machines, complete.
3—Automatic Soap Wrapping Machines, electric glue sealers.
1—Jones automatic Soap Press.
2—Pneumatic Scale Co. Carton Packaging Units.
1—Proctor & Schwartz Soap Chip Dryer, steel frame, 72" Apron, with 5-roll P. & S. Mill.

2—Ferguson Carton Wax Wrapping Machines.
1—5000 lb. Vertical Jacketed Crutcher.
1—Dopp 1500 lb. Vertical Jacketed Crutcher.
1—P. & S. 5-roll, watercooled Mill.
2—Broughton 1200-1500 lb. Soap Powder Mixers.
2—Rutchmann 4-roll Inclined Granite Mills, 18"x24".
4—Houchin Soap Plodders, 8" and 10".
2—Soap Foot Presses.
4—Houchin 4 and 6-Knife Chippers, 20".
1—Houchin 1200 lb. Power Slabber.
1—Houchin 2-way Soap Cutting Table.
2—Blanchard 10A Soap Powder Mills.
10—Taber Soap Pumps, 3½" to 1½".

Miscellaneous—Filter Presses and Filters, Amalgamators, Soap Frames, Kettles, Mixers, Pony Mixers, Powder Fillers, Labellers, Wrapping Machines, Tanks, Pumps, Boilers, etc.

Send for Latest Bulletin

CONSOLIDATED PRODUCTS CO., INC.
15-21 PARK ROW — NEW YORK, N. Y.
BArclay 7-0600 — Cable Address: Equipment
We buy your idle Machinery—Send us a list.

To Sulfonators and Soapmakers

OUR
Pure Imported
TEANUT OIL
is an excellent substitute for
OLIVE OIL and OLIVE OIL FOOTS

MURRAY
OIL PRODUCTS CO.
INCORPORATED
21 WEST ST., NEW YORK

Raw Materials and Equipment

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 134 for page numbers. *"Say you saw it in SOAP."*

ALKALIES

John A. Chew, Inc.
Columbia Alkali Co.
T. G. Cooper & Co.
Dow Chemical Co.
Eastern Industries
Hooker Electrochemical Co.
Innis, Speiden & Co.
Niagara Alkali Co.
H. H. Rosenthal Co.
Solvay Sales Corp.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

AROMATIC CHEMICALS

American-British Chemical Supplies
Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer Inc.
E. I. du Pont de Nemours & Co.
Felton Chemical Co.
Firmenich & Co.
Charles Fischbeck Co.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Co.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
Solvay Sales Corp.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

BULK AND PRIVATE BRAND PRODUCTS

Associated Chemists, Inc.
Baird & McGuire, Inc.
Buckingham Wax Corp.
Candy & Co.
Chemical Supply Co.
Chicago Sanitary Products Co.
Clifton Chemical Co.
Davies-Young Soap Co.
Exterminating Materials Co.
Federal Varnish Co.
Fuld Bros.
Harley Soap Co.
Koppers Co.
Kranich Soap Co.
Philadelphia Quartz Co.
John Powell & Co.
Geo. A. Schmidt & Co.
Shawmut Specialty Co.
Sweeping Compound Mnfrs. of N. Y.
Uncle Sam Chemical Co.
T. F. Washburn Co.
White Tar Co.
Windsor Wax Co.

CHEMICALS

American-British Chemical Supplies
John A. Chew, Inc.
Columbia Alkali Co.
T. G. Cooper & Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Eastern Industries
Hooker Electrochemical Co.
Industrial Chemical Sales Div.
Innis, Speiden & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
Rohm & Haas Co.
H. H. Rosenthal Co.
E. M. Sergeant Pulp & Chem. Co.
Solvay Sales Corp.
Standard Silicate Co.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)

American-British Chemical Supplies
Baird & McGuire, Inc.
T. G. Cooper & Co.
Innis, Speiden & Co.
Koppers Co.
Monsanto Chemical Co.
Reilly Tar & Chemical Co.
White Tar Co.

COLORS

Fezandie & Sperrle
Pylam Products Co.

CONTAINERS and CLOSURES

Anchor-Hocking Glass Corp. (Closures & Bottles)
Capstan Glass Co. (Bottles)
Continental Can Co. (Tin Cans)
Hazel-Atlas Glass Co. (Bottles and Jars)
National Can Co. (Cans)
Salem Glass Works (Bottles)
Sutherland Paper Co. (Packages)
Wilson & Bennett Mfg. Co. (Steel Pails and Drums)

DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.
Fuld Bros.

ESSENTIAL OILS

Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
Felton Chemical Co.
Firmenich & Co.
Charles Fischbeck Co.
Fritzsche Brothers, Inc.
Leghorn Trading Co.
Magnus, Mabee & Reynard, Inc.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

INSECTICIDES, SYNTHETIC

Kessler Chemical Co.
Rohm & Haas Co.

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Salesman—Ten years' experience selling jobbers soaps, disinfectants, etc., desires permanent connection. Address Box No. 407, care *Soap.*

Positions Open

Wanted: An experienced kettle man capable of making yellow and white laundry soap and hard-water coco soap. Must have thorough knowledge and experience. Excellent opportunity in the South for an energetic and industrious man. Address Box No. 398, care *Soap.*

Salesmen Wanted for Eastern Seaboard: Large manufacturer of cleaning compounds, insecticides, and disinfectants offers splendid proposition to experienced men. Address Box No. 394, care *Soap.*

Salesman—By old established manufacturing company of quality soaps, powders, polishes, disinfectants, insecticides, etc. Only one experienced in this field and familiar with New York City and vicinity need apply. Liberal drawing account to right man. In reply, state age, experience, etc. Address Box No. 397, care *Soap.*

Salesmen Wanted: finest soaps, cleaners, polishes, waxes, disinfectants, deodorants; reliable manufacturer for sixty years. Prompt liberal commission. Address Baum's Castorine Co., Rome, N. Y.

Miscellaneous

Established manufacturer of furniture polish desires to contact jobbers, wholesalers and distributors. Can supply product under own private label. Address Box No. 400, care *Soap.*

Factory in Brooklyn equipped with Anderson oil expeller, dry mixer, Hammermill pulverizer, filters, pumps and assorted tanks, offers its facilities on contract basis. Address Box No. 404, care *Soap.*

Capital to Invest: Executive-salesman will invest several thousand dollars and services in established business. Write details about the line of business. Address Box No. 393, care *Soap.*

Floor Brushes—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

No-Rubbing Wax—No Radio Programs—No Ballyhoo. The best wax you ever saw at amazingly low prices. Samples submitted. Twi-Laq Chemical Co., 221 Sullivan St., Bklyn., N. Y.

Wanted to Buy: Soap powder grinder; soap powder carton filler; 4 oz. cake soap press. Send full description; lowest price. Baum's Castorine Co., Rome, N. Y.

We announce development of new type soap colors

PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	**Dark Brown**
Olive Green	**Palm Green**
Yellow	**Golden Brown**
True Blue	**Violet**

It will pay you to send for testing samples.

PYLAM PRODUCTS CO., INC.

Manufacturing Chemists, Importers, Exporters

799 Greenwich St. New York City

Cable Address: "Pylamco"

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Vol. 3, Sept., 1927 to Aug., 1928—4 sets @ $10.00 ea.
Vol. 10, Jan., 1934 to Dec., 1934—1 set @ 12.00 ea.
Vol. 13, Jan., 1937 to Dec., 1937—2 sets @ 12.00 ea.

We also have a few bound volumes of Oil & Fat Industries, published as a separate publication prior to Jan., 1932, when it was added to SOAP as the Production Section. These are for the years 1929 and 1931 only and cost $5.00 per volume.

Postage Prepaid in U. S.

MAC NAIR-DORLAND CO., Inc.

254 W. 31st STREET NEW YORK

Raw Material and Equipment Guide

(*Continued from page* 130)

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 134 for page numbers. *"Say you saw it in SOAP."*

MACHINERY

J. H. Day Co. (Mixers, Sifters, Mills)
Anthony J. Fries (Soap Dies)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
Ingersoll Steel & Disc. Div. Borg-Warner Corp.
International Nickel Co. (Monel Metal)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Koppers Company (Coal Tar Plants, Power Plants, Valves, Castings, Pipe, Tanks)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Stokes & Smith Co. (Packing Machinery)
Viking Pump Co. (Pumps)

MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.

MISCELLANEOUS

American Standard Mfg. Co. (Wax Applicator)
Anchor-Hocking Glass Corp. (Metal Caps)
T. G. Cooper & Co. (Waxes)
Dicalite Co. (Insecticide Carrier, Filtering Materials, Abrasives)
Dobbins Mfg. Co. (Pails, Mop Wringers, etc.)
Exterminating Materials Co. (Exterminators' Supplies)
Hercules Powder Co. (Pine Oil and Rosin)
Industrial Chemical Sales Div. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants and Waxes)
Koppers Company (Coal, Coke, Roofing Materials)
Pylam Products Co. (Lathering Agent)
S. Schwabacher & Co. (Naphthenic Soaps, White Mineral Oils)
Victoria Paper Mills Co. (Paper Accessories)

OILS AND FATS

T. G. Cooper & Co.
Eastern Industries
Independent Mfg. Co.
Industrial Chemical Sales Div.
Leghorn Trading Co.
Murray Oil Products Co.
Newman Tallow & Soap Machinery Co.
Orbis Products Corp. (Stearic Acid)
E. M. Sergeant Pulp & Chemical Co.
Wecoline Products Co.
Welch, Holme & Clark Co.

PARADICHLORBENZENE

John A. Chew, Inc.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Monsanto Chemical Co.
Niagara Alkali Co.
H. H. Rosenthal Co.
Solvay Sales Corp.
Jos. Turner & Co.

PERFUMING COMPOUNDS

Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
Felton Chemical Corp.
Firmenich & Co.
Charles Fischbeck Co.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

PETROLEUM PRODUCTS

Atlantic Refining Co.
O'Connor & Kremp
S. Schwabacher & Co.
L. Sonneborn Sons.

PYRETHRUM AND DERRIS PRODUCTS

Insect Flowers and Powder, Pyrethrum Extract, Derris Products

Associated Chemists, Inc.
Derris, Inc.
S. B. Penick & Co.
R. J. Prentiss & Co.
McCormick & Co.
McLaughlin, Gormley, King Co.
John Powell & Co.
H. H. Rosenthal Co.

SILICATES

Cowles Detergent Co.
E. I. du Pont de Nemours & Co.
Philadelphia Quartz Co.
Standard Silicate Co.

SOAP DISPENSERS

Bobrick Mfg. Co.
Clifton Chemical Co.
Fuld Bros.

SPRAYERS

Breuer Electric Mfg. Co.
Dobbins Mfg. Co.
Fumeral Co.
Lowell Manufacturing Co.
Mystic Products Co.

TRI SODIUM PHOSPHATE

John A. Chew, Inc.
E. I. du Pont de Nemours & Co.
Monsanto Chemical Works
H. H. Rosenthal Co.
Warner Chemical Co.

Professional Directory

PEASE LABORATORIES, Inc.
Chemists, Bacteriologists, Sanitarians
39 West 38th Street
New York
Food, Drug and Cosmetic Problems—Compliance with Official Requirements—Meeting New and Anticipated Competitions with Improved and New Products

H. A. SEIL, Ph.D E. B. PUTT, Ph.C., B.Sc.
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Specialists in the Analysis of Pyrethrum Flowers, Derris Root, Barbasco, or Cube Root—Their Concentrates and Finished Preparations
ESSENTIAL OILS SOAP
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Analytical and Consulting Chemists
Members Association of
Consulting Chemists and Chemical Engineers
130 Cedar Street New York City

SOAPS — DETERGENTS
Analyses *Development*
Consultation *Formulas*
HochstadterLaboratories
INCORPORATED
254 West 31st St. New York City

KILLING
strength of Insecticides
by PEET GRADY METHOD
(Official I. & D. code method) and
PYRETHRINS in PYRETHRUM FLOWERS
(by Gnadinger's Method)
We raised and killed more than 1 million flies in the last 2 years
ILLINOIS CHEMICAL LABORATORIES, INC.
5235 WEST 65th STREET CHICAGO, ILL.

FOSTER D. SNELL, INC.
Chemists—Engineers
Every form of Chemical Service
305 WASHINGTON STREET BROOKLYN, N. Y.
215 N. Calvert Street, Baltimore, Md.

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All cases submitted given personal attention by members of the firm. Information and booklet free.
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PATENT LAW OFFICES
Suite 402, Bowen Building Washington, D. C.

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SOAP BLUE BOOK

for F.D.A. Method for Testing of Disinfectants and Antiseptics.

Official N.A.I.D.M. Method for Testing and Grading of Insecticides.

Free with a $3.00 subscription to SOAP.

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Publishers
254 W. 31st Street New York, N. Y.

Skinner & Sherman, Inc.
246 Stuart Street, Boston, Mass.
Bacteriologists and Chemists
Disinfectants tested for germicidal value or phenol co efficient by any of the recognized methods.
Research—Analyses—Tests

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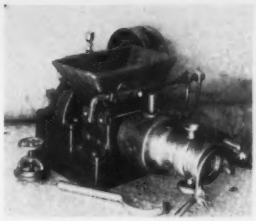
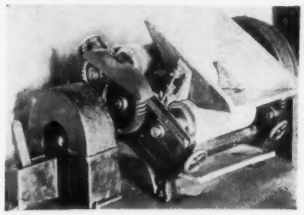
Every effort is made to keep this index free of errors, but no responsibility is assumed for any omission.

LABORATORY MILL AND PLODDER

Showing a very successful laboratory mill and plodder capable of producing a very nice-looking cake of soap weighing 2½ oz., measuring 3¾" long, 1⅝" wide and 1" thick. The mill is equipped with Quincy Granite rolls 4½" in diameter, 12" long. The plodder has a 3¼" diameter screw and is equipped with a cutting-off device and has an electric heating element to heat the water contained in the cup.





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Makers of good soap machinery for over 40 years

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Our Enemy the Termite

By THOMAS E. SNYDER

Senior Entomologist, Bureau of Entomology, U. S. Department of Agriculture

The termite is treated from the economic as well as the entomological view in this new treatise which is based on the author's 26 years of study of termites and termite control. Methods of control are given special consideration and practical suggestions are made for building termite-proof houses as well as for saving structures that are already infested. 196 pages. 6¼ x 9⅜.

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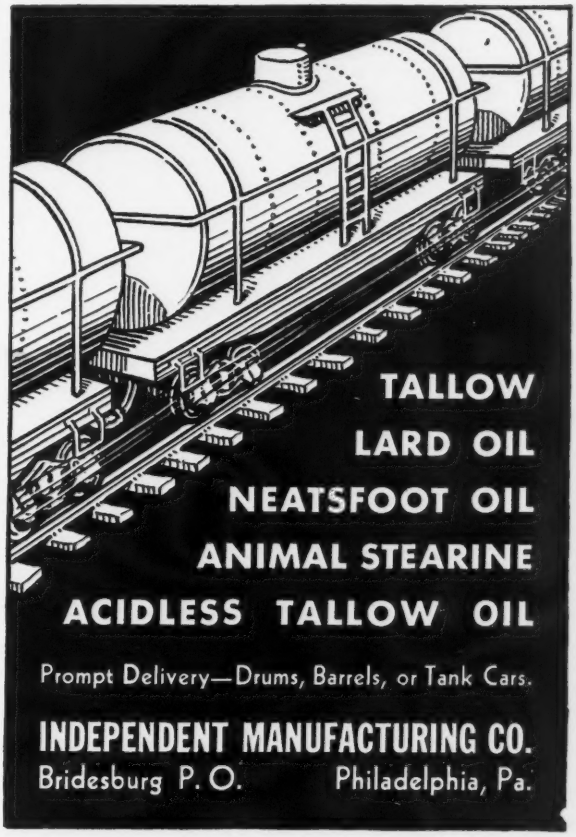

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Check up on the past records, company connections, hobbies, interests, accomplishments, etc., of your customers, competitors and friends in the chemical processing industries. The second edition of *Chemical Who's Who* lists 5,686 biographies. Cross-indexed geographically and by companies.

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How widely read are Business Papers?

IN her new book, *"Advertising and Selling Through Business Publications,"* Mrs. Mabel Potter Hanford, of Batten, Barton, Durstine & Osborne, one of America's outstanding advertising agencies, quotes some interesting facts uncovered in a survey among industrial managers conducted by McGraw-Hill Publishing Company. It was found that—

Two-thirds of all magazines *received* were business publications.

Two-thirds of the magazines *actually read* were business publications.

72% of the magazines *preferred* were business publications.

Among the business executives themselves, it was found that—

81% *received* one or more general magazines, while

98% *received* one or more business publications.

However, when it came to readership, the report showed that while—

68% of the executives *read general magazines,*

93% *read business publications.*

Of most importance, however, was the question of preference—

74% of the executives *preferred* business publications.

How About SOAP and Sanitary Chemicals?

OUR Audit Bureau of Circulations reports tell the story of how SOAP is accepted and read in the soap and sanitary chemical field. Paid circulation shows a steady increase year in and year out, while the subscription renewal percentage averages over 75%.

Tale Ends

GENERAL business conditions seem somewhat better than they were a month ago. From what we can glean, shipments of basic materials in industry have expanded a trifle. We hear that most inventories are down,—in some cases, away down! As soon as people realize that prices are not going to go any lower,—and that the bottom is not going to drop completely out of the security markets,—things are bound to open up. It is our opinion, that the outlook is distinctly brighter!

—— ♦ ——

Talk about "pump priming" all you want to,—but the best primer for business right now would be an upward movement of prices generally which would bring in thousands of buyers who are still holding back waiting to "see what happens."

—— ♦ ——

Incidentally, the 1938 BLUE BOOK is being mailed to paid up subscribers,—a trifle late due to unforeseen circumstances,—but bigger and better than ever,—200 pages of condensed valuable information. If your copy has not arrived as yet, it should be there in a day or two. If not, check up and see if your subscription to SOAP is paid up. Only paid up subscribers get copies of the BLUE BOOK.

—— ♦ ——

Coming in the next issue or two of SOAP,—a discussion of garage cleaners and other heavy duty detergents; testing insecticides against roaches; bleaching oils, fats, and soaps in the soap plant; an explanation of pH for those who are not familiar with its meaning and use; the modern dairy as a market for cleaning and sanitary products; notes on toilet soap manufacture; a review of recent patents on insecticides, etc., etc. Don't miss them!